3/11/95

DIALOG

Set Items Description
S1 6427 HYALURONIC? OR HYALURONAN? OR HYALURONATE? S2 999760 TREAT? OR ADMINSTER? OR ADMINSTRAT?
S3 284 S2 (10N) S1
S4 364728 CANCER? OR CARCINOMA?
S5 0 S4 (10N) S3
S6 8029 BASAL(W)CELL
S7 0 S3 (10N) S6
S8 2670 NSAID? OR (NON-STEROIDAL(W)ANTI-INFLAMMATORY) S9 0 S8 (10N) S3
S10 55 S4 (10N) S1
S11 60127 PROSTAGLANDIN?
S12 49 S11 (10N) S1
S13 255 S11 (10N) S8
S14 363 S11 (10N) S4
S15 0 S14 AND S1
S16 1 S13 AND S1
S17 99 AU="BALAZS E" OR AU="BALAZS EA"
S18 48 S17 AND S1
S19 0 S18 AND S11
? t 18/7/all

18/7/1
DIALOG(R)File 155:MEDLINE(R)

08856824 94171824
Hylan gel biomaterial: dermal and immunologic compatibility. Larsen NE; Pollak CT; Reiner K; Leshchiner E; Balazs EA
Department of Biochemistry, Biomatrix, Inc., Ridgefield, New Jersey 07657.
J Biomed Mater Res (UNITED STATES) Sep 1993, 27 (9) p1129-34, ISSN 0021-9304 Journal Code: HJJ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Hylan, a hyaluronan derivative, was chemically cross-linked with divinyl sulfone to produce a water-insoluble gel. This gel was fragmented into a gel slurry and evaluated for particle size, biocompatibility, and residence times in selected tissues. Hylan gels used in this study are made up of pseudoplastic, deformable gel particles with greater elasticity (at all frequencies) and greater viscosity (shear rates, 0.01 sec-1) than the water soluble hylan polymer. Hylan gel was injected intradermally and subdermally in mice and was found to produce a minimal reaction at 24 h; thereafter (up to 7 weeks) there was no significant tissue reaction. Intradermal injection of [3H]-hylan gel in guinea pigs revealed a minimal tissue reaction after 1 week, and measurement of radioactivity in the tissue at 1, 2, and 4 weeks revealed only a slight decrease in the total amount of injected radioactivity. The immunogenic activity of hylan gel was evaluated in rabbits; unmodified hylan gel, degraded hylan gel, and hylan gel ovalbumin conjugate were used to immunize rabbits. No antibody production to any hylan gel sample was detected, although control rabbits immunized with ovalbumin developed titers > 400 of antiovalbumin antibodies by day 21, as measured by the passive cutaneous anaphylaxis assay (PCA). Last, serum from owl monkeys (Aotus trivirgatus) in which hylan gel had been placed intravitreally for up to 3 years contained no detectable anti-hylan gel antibodies (PCA assay). Skin tests on these monkeys were also negative.

18/7/2
DIALOG(R)File 155:MEDLINE(R)

08701196 94016196
Viscosupplementation: a new concept in the treatment of osteoarthritis. Balazs EA; Denlinger JL
Biomatrix Inc., Ridgefield, NJ 07657.
J Rheumatol Suppl (CANADA) Aug 1993, 39 p3-9, ISSN 0380-0903 Journal Code: JWY
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Viscosupplementation is a new medical concept that has as its therapeutic goal the restoration of rheological homeostasis in pathological structures such as osteoarthritic joints. When the normal viscoelasticity of a solid tissue compartment or the elastoviscosity of a liquid tissue compartment is decreased under pathological conditions, normal function and regenerative processes are impaired. By introducing viscosupplementary devices, the normal rheological state of such compartments is restored or augmented. These devices stay in the tissue compartment for various periods of time, depending on the nature of the viscosupplement and the pathophysiology of the tissue compartment.

18/7/3
DIALOG(R)File 155:MEDLINE(R)

07988890 92126890
Matrix engineering.
Balazs EA; Bland PA; Denlinger JL; Goldman AI; Larsen NE; Leshchiner EA; Leshchiner A; Morales B
Biomatrix Inc, Ridgefield, NJ 07657.
Blood Coagul Fibrinolysis (ENGLAND) Feb 1991, 2 (1) p173-8, ISSN 0957-5235 Journal Code: A5J
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL Matrix engineering is a technology that utilizes hyaluronan (HA, hyaluronic acid) based matrices to control, direct or augment tissue regenerative processes. Hyaluronan and the concept of matrix engineering have become established tools in ophthalmic and orthopaedic medicine. The clinical indications for HA are limited by the physical properties and short residence time of the natural HA molecule. To expand and improve upon its current medical applications, a family of HA derivatives was prepared by chemical modification and cross-linking. Relative to the non-modified HA molecule, the hylan family of polymers provides more versatile physical forms, improved mechanical properties and an extended residence time. Hylan can also be used as a surface coating to improve blood compatibility. The chemical, physical and biological properties of hylans will be reviewed, focusing on the specific therapeutic indications they enable. (57 Refs.)

18/7/4
DIALOG(R)File 155:MEDLINE(R)

07954131 92092131
Effect of hylan on cartilage and chondrocyte cultures.
Larsen NE; Lombard KM; Parent EG; Balazs EA
Department of Biochemistry, Matrix Biology Institute, Ridgefield, NJ 07657.
J Orthop Res (UNITED STATES) Jan 1992, 10 (1) p23-32, ISSN 0736-0266 Journal Code: JIQ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The protective role of hylan, a hyaluronan [hyaluronic acid (HA)] derivative, was studied in explanted bovine cartilage and isolated chondrocytes. Cartilage and chondrocytes were exposed to degradative enzymes (lysate from activated polymorphonuclear leukocytes), oxygen-derived free radicals (ODFR), conditioned media from mononuclear cells (MCCM), and interleukin-1 (IL-1), in the presence and absence of hylan. The effect of HA was also studied. In cartilage explants susceptibility to pertubation was evaluated in terms of 35S release and proteoglycan depletion and was compared to control cultures; high viscosity hylan was found to reduce 35S release in cartilage explants caused by degradative enzymes, ODFR, MCCM, and IL-1. The hylan effect was reversible and viscosity-dependent. In chondrocyte cultures, high viscosity hylan was effective in reducing cell injury caused by degradative enzymes and ODFR. The data suggest that the glycosaminoglycan hylan, as well as native HA, may mediate exposure to and/or response to stimuli associated with initiation of degenerative processes in cartilage tissues.

18/7/5
DIALOG(R)File 155:MEDLINE(R)

07821785 91340785
Hylan gel composition for percutaneous embolization.
Larsen NE; Leshchiner EA; Parent EG; Hendrikson-Aho J; Balazs EA; Hilal SK
Department of Chemistry, Matrix Biology Institute, Ridgefield, New Jersey.
J Biomed Mater Res (UNITED STATES) Jun 1991, 25 (6) p699-710, ISSN 0021-9304 Journal Code: HJJ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Viscoelastic, pseudoplastic, radiopaque injectable hylan gel for percutaneous embolization was developed and evaluated by in vitro and in vivo tests. The embolization gel is composed of cross-linked hylan (hyaluronan, hyaluronate), tantalum, microcrystalline cellulose, hexamethonium chloride, and thrombin. Upon delivery through small-lumen catheters to the appropriate vascular site, the gel induces formation of a solid blood/gel coagulum. Results from animal studies (rat aorta, rabbit auricular artery) demonstrate that formation of complete and long-lasting arterial blockage is readily achievable without complications due to blood flow, partial vessel obstruction, uncontrolled polymerization, or movement of the gel or its components (specifically thrombin and hexamethonium chloride) into the circulation. Microscopic evaluation indicates that arterial occlusion initially occurs as a result of the injected gel and formed fibrin; at 7 weeks and beyond, arteries are occluded by injected gel, inflammatory cells and fibrosis (scar tissue).

18/7/6
DIALOG(R)File 155:MEDLINE(R)

07132707 90039707
Preliminary studies on the use of a viscoelastic solution in arthroscopic surgery of the temporomandibular joint.
McCain JP; Balazs EA; de la Rua H
University of Miami School of Medicine, Department of Oral and Maxillofacial Surgery, Florida.
J Oral Maxillofac Surg (UNITED STATES) Nov 1989, 47 (11) p1161-8, ISSN 0278-2391 Journal Code: JIC
Languages: ENGLISH
Document type: CLINICAL TRIAL; JOURNAL ARTICLE; RANDOMIZED CONTROLLED TRIAL
Arthroscopic surgery of the temporomandibular joint includes the potential for iatrogenic damage of intracapsular structures during introduction of instruments and manipulation of the tissues. A modification of an elastoviscous solution of crosslinked sodium hyaluronate, called hylan fluid, was used for irrigation during surgery in 55 temporomandibular joints. Forty-nine of the joints were monitored postoperatively in a study to measure safety and efficacy of the material during the arthroscopic procedure. The hylan fluid was found to be as safe as the standard irrigating fluid. The hylan fluid also significantly protected the joint surfaces and facilitated the surgical procedure.

18/7/7
DIALOG(R)File 155:MEDLINE(R)

07125069 90032069
Clinical uses of hyaluronan.
Balazs EA; Denlinger JL
Matrix Biology Institute, Ridgefield, NJ 07657.
Ciba Found Symp (NETHERLANDS) 1989, 143 p265-75; discussion 275-80, 281-5, ISSN 0300-5208 Journal Code: D7X
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL The availability of elastoviscous solutions of highly purified hyaluronan has created two new therapeutic methods in human and veterinary medicine: viscosurgery and viscosupplementation. Viscosurgical tools and implants are widely used in ophthalmology and have been suggested for use in otology. Visco-supplementation of joint fluid using elastoviscous hyaluronan solutions is widely used in the treatment of equine traumatic arthritis. It was also suggested for use in idiopathic osteoarthritis in humans, but this application has not received wide acceptance. Cross-linked forms of hyaluronan have been developed and given the generic name of hylans. Water-insoluble soft gels of hylans are ideally suitable as viscosurgical implants to prevent postoperative adhesions and to control scar formation. Hylan solutions are being used in arthroscopic viscosurgery. Hylan devices in various forms (gels, tubes, membranes) have been used in animal studies for matrix engineering, the purpose of which is to control and direct tissue regeneration and augmentation. (43 Refs.)

18/7/8
DIALOG(R)File 155:MEDLINE(R)

07037928 89339928
Morphology and ultrastructure of human vitreous fibers.
Sebag J; Balazs EA

Eye Research Institute of Retina Foundation, Harvard Medical School, Boston, Massachusetts.
Invest Ophthalmol Vis Sci (UNITED STATES) Aug 1989, 30 (8) p1867-71, ISSN 0146-0404 Journal Code: GWI
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Significant alterations in vitreous structure occur with aging and disease. There is controversy as to the nature of the normal structure of the vitreous and no studies have correlated macroscopic structure with ultrastructure in the same eyes. Twenty-eight fresh, untreated human eyes were examined after removal of the sclera, choroid and retina. Dark-field slit illumination of the whole vitreous revealed the presence of macroscopic fibrous structures. The fibers had an antero-posterior orientation with anterior insertions at the vitreous base and posterior insertions in the premacular vitreous cortex. Transmission electron microscopy demonstrated the presence of collagen fibrils and no membraneous structures. Parallel collagen fibrils packed in bundles were also detected. Macroscopic vitreous fibers most likely result from alteration of the hyaluronic acid-collagen complex with aggregation of collagen fibrils into bundles as seen on electron microscopy. Identifying the mechanisms underlying this process of fiber formation could clarify the pathogenesis of vitreous liquefaction and the pathophysiology of posterior vitreous detachment.

18/7/9
DIALOG(R)File 155:MEDLINE(R)

05724023 86025023
The role of the vitreous in the intraocular pressure rise after neodymium-YAG laser capsulotomy.
Schubert HD; Morris WJ; Trokel SL; Balazs EA
Arch Ophthalmol (UNITED STATES) Oct 1985, 103 (10) p1538-42, ISSN 0003-9950 Journal Code: 830
Contract/Grant No.: E-7011747
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Autologous liquid vitreous injected into the anterior chamber of the phakic owl monkey eye leads to markedly increased intraocular pressure (IOP) peaking at one to two hours. In contrast, neodymium-YAG laser shock waves focused in the center of the anterior chamber of the same animal led to a mild decrease in IOP. Debris produced by laser pulses focused on the residual cortex of owl monkey eyes that had undergone extracapsular surgery failed to increase the IOP. Similarly, injection of dialyzed vitreous did not have any significant influence on IOP. We conclude that the disruption of the integrity of the anterior cortical gel and the subsequent release of a dialyzable intravitreal substance with a molecular weight of less than 10,000 daltons into the anterior chamber may contribute to the IOP rise after surgical discission, including neodymium-YAG laser posterior capsulotomy.

18/7/10
DIALOG(R)File 155:MEDLINE(R)

05411575 85027575
Exogenous Na-hyaluronate in the anterior chamber of the owl monkey and its effect on the intraocular pressure.
Schubert HD; Denlinger JL; Balazs EA
Exp Eye Res (ENGLAND) Aug 1984, 39 (2) p137-52, ISSN 0014-4835 Journal Code: EPL
Contract/Grant No.: EY 01747
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Exogenous, ultrapure (sterile, pyrogen-free), non-inflammatory fraction of Na-hyaluronate (NIF-NaHA) was introduced into the anterior chamber of owl monkeys (Aotus trivirgatus), replacing approximately 48% or 77% of the aqueous humor and creating post-injection intraocular pressures (IOPs) below normal (5-10 mmHg) or above normal (40-60 mmHg), respectively. Five different molecular weight samples (MW 1.7, 3.4, 3.7, 4.5 and 4.9 X 10(6)) were used. All solutions contained 1% NIF-NaHA and, because of the varying molecular weights, the viscosities of the solutions ranged between 10 000 and 930 000 cSt. The IOP and the rate of export of the exogenous NIF-NaHA from the anterior chamber were measured. All solutions caused an increase in the IOP, and the maximum level occurred at 4 hr after injection. In all cases, the IOP returned to normal 24 hr after injection. The highest and most persistent increase in IOP was observed after the injection of the solution with the lowest viscosity (10 000 cSt). The smallest increases in IOP over the post-operative value were observed after replacement of the aqueous humor using those samples with viscosities of 10 0000 to 300 000 cSt. The turnover (export rate) of injected NIF-NaHA depends for the most part on the viscosity of the injected solution. With increasing viscosity the rate constant, and therefore the half-life, of the injected NIF-NaHA decreases. The volume fraction of the viscous solution replacing the aqueous humor is also a determining factor in establishing the turnover rate. The molecular weight of the injected NIF-NaHA did not change during that time (48 hr) in which a sufficient amount of sample for analysis could be obtained. No evidence was found for the presence of any kind of hyaluronic acid-degrading agent in the anterior chamber.

18/7/11
DIALOG(R)File 155:MEDLINE(R)

05253428 84177428
1H NMR of glycosaminoglycans and hyaluronic acid oligosaccharides in aqueous solution: the amide proton environment.
Cowman MK; Cozart D; Nakanishi K; Balazs EA
Arch Biochem Biophys (UNITED STATES) Apr 1984, 230 (1) p203-12, ISSN 0003-9861 Journal Code: 6SK
Contract/Grant No.: EY 01747; EY 04156; EY 04804; +
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The exchangeable amide protons of hyaluronic acid (HA) oligosaccharides and a higher-molecular-weight segment dissolved in H2O at pH 2.5 or 5.5 were examined by H NMR spectroscopy at 250 MHz. The HA segment preparation showed a single amide resonance, near the chemical shift for the amide proton of the monosaccharide 2-acetamido-2-deoxy-beta-D-glucopyranose (beta-GlcNAc). Smaller HA oligosaccharides showed two or three separate amide proton resonances, corresponding in relative peak area to interior or end GlcNAc residues. The interior GlcNAc amide resonance occurred at the same chemical shift as the single resonance of the HA segment. For the end GlcNAc residues, linkage to D-glucuronopyranose (GlcUA) through C1 resulted in an upfield shift relative to the beta-anomer of GlcNAc, whereas linkage through C3 resulted in a downfield shift relative to the corresponding anomer of GlcNAc. These chemical-shift perturbations appeared to be approximately offsetting in the case of linkage at both positions. The amide proton vicinal coupling constant (ca. 9 Hz) was found to be essentially independent of chain length, residue position, or solution pH. These data favor a nearly perpendicular orientation for the acetamido group with respect to the sugar ring, little affected by linkage of GlcNAc to GlcUA. No evidence for the existence of a stable hydrogen bond linking the amide proton with the carboxyl(ate) oxygen of the adjacent uronic acid residue was found. The amide proton resonances for chondroitin, chondroitin 4-sulfate, and dermatan sulfate were compared to that of HA. The chemical shifts of these resonances deviated no more than 0.1 ppm from that of HA. A small dependence on the identity of the adjacent uronic acid residue was noted, based on the observation of two resonances for dermatan sulfate.

18/7/12

DIALOG(R)File 155:MEDLINE(R)

05074228 83307228
[Use of hyaluronic acid in eye surgery]
L'utilisation de l'acide hyaluronique en chirurgie oculaire. Balazs EA
Annee Ther Clin Ophtalmol (FRANCE) 1982, 33 p95-110, ISSN 0301-4495 Journal Code: 6DA
Languages: FRENCH
Document type: JOURNAL ARTICLE; REVIEW
(40 Refs.)

18/7/13
DIALOG(R)File 155:MEDLINE(R)

05024600 83257600
Vacuum-ultraviolet circular dichroism of sodium hyaluronate oligosaccharides and polymer segments.
Cowman MK; Bush CA; Balazs EA
Biopolymers (UNITED STATES) May 1983, 22 (5) p1319-34, ISSN 0006-3525 Journal Code: A5Z
Contract/Grant No.: EY 07002; EY 01747; AM 21826
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/14
DIALOG(R)File 155:MEDLINE(R)

04975415 83208415
Isolation and characterization of ichthyosan from tuna vitreous. Armand G; Balazs EA; Meyer K; Reyes M
Connect Tissue Res (ENGLAND) 1983, 11 (1) p21-33, ISSN 0300-8207 Journal Code: DQH
Contract/Grant No.: EY 03405; EY401747
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Ichthyosan has been prepared from tuna vitreous. Glucuronic acid was found to account for the total uronic acid content of the macromolecule, while the hexosamine content was a mixture of N-acetyl-glucosamine and N-acetyl-galactosamine. When ichthyosan was gel filtered on Sepharose 2B or Sephacryl S-300, using sodium or calcium chloride, the elution profile of the column gave only one peak indicating no separation between glucosamine and galactosamine containing fractions. Similar results were obtained when ichthyosan was chromatographed on DEAE-cellulose using a salt gradient both in the presence and absence of 7.0 M urea. When ichthyosan was gel filtered in 4.0 M guanidine-HCL and subsequently chromatographed on DEAE-Sephacel or DEAE-cellulose, three well separated fractions were present. The two major fractions (II and III) were characterized as chondroitin and hyaluronic acid respectively; while fraction I representing about 3-5% of the total polysaccharide content of ichthyosan was identified as a keratan-like molecule. The same pattern was obtained when ichthyosan was digested with proteolytic enzymes and subsequently chromatographed on DEAE-cellulose or DEAE-Sephacel. Based on these findings it is concluded that in ichthyosan chondroitin, hyaluronate and keratan-like molecular chains are bound to proteins in non-covalent linkages.

18/7/15
DIALOG(R)File 155:MEDLINE(R)

04356415 81184415
Preparation and circular dichroism analysis of sodium hyaluronate oligosaccharides and chondroitin.
Cowman MK; Balazs EA; Bergmann CW; Meyer K
Biochemistry (UNITED STATES) Mar 3 1981, 20 (5) p1379-85, ISSN 0006-2960 Journal Code: A0G
Contract/Grant No.: EY 07002; AG 01181; AM 21826
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/16
DIALOG(R)File 155:MEDLINE(R)

04217721 81045721
Inhibition of phagocytosis by high molecular weight hyaluronate. Forrester JV; Balazs EA
Immunology (ENGLAND) Jul 1980, 40 (3) p435-46, ISSN 0019-2805 Journal Code: GH7
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The effect of sodium hyaluronate on phagocytosis was studied using a sensitive polystyrene latex sphere assay in mouse peritoneal macrophage monolayers. Viscous solutions of high molecular weight hyaluronate (4.6 X 10(5)--2.8 X 10(6)) caused a dose-dependent inhibition of phagocytosis, but low molecular weight hyaluronate (9.0 X 10(4)) was not inhibitory at equivalent viscosity. The inhibitory effect of high molecular weight hyaluronate did not appear to be mediated by the polyanionic charge of the molecule since sulphated glycosaminoglycans with greater charge density (heparin and chondroitin sulphate) were ineffective. In addition, competitive inhibition studies indicated that a direct effect on possible cell surface membrane receptors was unlikely. Instead, physical factors such as steric hindrance by the continuous polymeric network, were considered of more importance. Alternatively, the hydrophilic polysaccharide may have inhibited phagocytosis by providing an unsuitable surface for adhesive contact between the latex beads and the cell surface.

18/7/17
DIALOG(R)File 155:MEDLINE(R)

04216245 81044245

Replacement of the liquid vitreus with sodium hyaluronate in monkeys. I. Short-term evaluation.
Denlinger JL; Balazs EA
Exp Eye Res (ENGLAND) Jul 1980, 31 (1) p81-99, ISSN 0014-4835 Journal Code: EPL
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/18
DIALOG(R)File 155:MEDLINE(R)

04216244 81044244
Age-related changes in the vitreus and lens of rhesus monkeys (Macaca mulatta).
Denlinger JL; Eisner G; Balazs EA
Exp Eye Res (ENGLAND) Jul 1980, 31 (1) p67-79, ISSN 0014-4835 Journal Code: EPL
Contract/Grant No.: EY 10747
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/19
DIALOG(R)File 155:MEDLINE(R)

04216239 81044239
The protective effect of Na-hyaluronate to corneal endothelium. Graue EL; Polack FM; Balazs EA
Exp Eye Res (ENGLAND) Jul 1980, 31 (1) p119-27, ISSN 0014-4835 Journal Code: EPL
Contract/Grant No.: EY 01747; EY 00415; EY 07012
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/20
DIALOG(R)File 155:MEDLINE(R)

04216238 81044238
Replacement of the liquid vitreus with sodium hyaluronate in monkeys. II. Long-term evaluation.
Denlinger JL; El-Mofty AA; Balazs EA
Exp Eye Res (ENGLAND) Jul 1980, 31 (1) p101-17, ISSN 0014-4835 Journal Code: EPL
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/21
DIALOG(R)File 155:MEDLINE(R)

04144420 80255420
The use of sodium hyaluronate (Healon.RTM.) in human anterior segment surgery.
Pape LG; Balazs EA
Ophthalmology (UNITED STATES) Jul 1980, 87 (7) p699-705, Journal Code: OI5
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The safety and efficacy of sodium hyaluronate (Healon.RTM.) was evaluated in a wide spectrum of anterior segment surgical procedures. Healon is not only safe, but actually facilitates the outcome of surgery. Healon placed intracamerally before cataract removal results in significantly decreased endothelial cell loss. In filtering procedures, use of intracameral and subconjunctival Healon promotes superior bleb formation while still maintaining chamber depth postoperatively. Corneal grafts performed over intracameral Healon receive maximal endothelial protection and manifest striking postoperative clarity.

18/7/22
DIALOG(R)File 155:MEDLINE(R)

04066656 80177656
A preliminary assessment of Na-hyaluronate injection into "no man's land" for primary flexor tendon repair.
St. Onge R; Weiss C; Denlinger JL; Balazs EA
Clin Orthop (UNITED STATES) Jan-Feb 1980, (146) p269-75, ISSN 0009-921X Journal Code: DFY
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A special fraction of Na-hyaluronate (Healon) was used for enhancement of repair of flexor tendon lacerations in "No Man's Land" to assess its role in preventing adhesion formation. The profundus tendons of the third and fourth fingers in owl monkeys were lacerated and repaired, and the superficialis tendons were resected. Prior to closure, saline solution or Healon paste was applied around the tendon. The fingers were immobilized for 4-5 weeks with the proximal interphalangeal joint (PIP) at 90 degrees of flexion. Following immobilization, the range of motion of the PIP joint was tested in a standard fashion for a period of 3 months. The Healon paste did not interfere with the healing process of the tendon. The fingers treated with Healon showed a significantly less flexion deformity (p less than 0.01) than the saline controls. Healon paste may be a useful adjunct in tendon surgery.

18/7/23
DIALOG(R)File 155:MEDLINE(R)

04002174 80113174
The chemical composition of vitreous hyalocyte granules. Freeman MI; Jacobson B; Balazs EA
Exp Eye Res (ENGLAND) Nov 1979, 29 (5) p479-84, ISSN 0014-4835 Journal Code: EPL
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/24
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

03700858 79077858
Effect of hyaluronic acid and vitreous on macrophage phagocytosis. Forrester JV; Balazs EA
Trans Ophthalmol Soc U K (ENGLAND) Sep 1977, 97 (4) p554-7, ISSN 0078-5334 Journal Code: WA1
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/25
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

03217271 77119271
Far-ultraviolet circular dichroism of N-acetylglucosamine, glucuronic acid, and hyaluronic acid.
Buffington LA; Pysh ES; Chakrabarti B; Balazs EA
J Am Chem Soc (UNITED STATES) Mar 16 1977, 99 (6) p1730-4, ISSN 0002-7863 Journal Code: H59
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/26
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02963110 76144110
Replacement of the vitreous with hyaluronic acid, collagen and other polymers. pp. 601-23.
Balazs EA; Hultsch E
In: Irvine AR, O'Malley C, ed. Advances in vitreous surgery. Springfield, Ill. Thomas, 1976. WW 250 C748a 1974. (UNITED STATES) Journal Code: IDM NLM Call No.: WW 250 C748a 1974
Languages: ENGLISH
Document type: MONOGRAPH

18/7/27
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02898342 76079342
Radiation protection of hyaluronic acid in the solid state. Armand G; Baugh PJ; Balazs EA; Phillips GO
Radiat Res (UNITED STATES) Dec 1975, 64 (3) p573-80, ISSN 0033-7587 Journal Code: QMP
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/28
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02676032 75083032
Preliminary clinical assessment of Na-hyaluronate injection into human arthritic joints.
Peyron JG; Balazs EA
Pathol Biol (Paris) (FRANCE) Oct 1974, 22 (8) p731-6, ISSN 0369-8114 Journal Code: OSG
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/29
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02625168 75032168
Experimental retinal detachment in owl monkeys. Effect of intravitreal hyaluronidase injection and embolization of the choroidal and retinal circulation.
Algvere P; Balazs EA
Mod Probl Ophthalmol (SWITZERLAND) 1974, 12 (0) p152-66, ISSN 0077-0078 Journal Code: NG4
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/30
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02379301 74097301
Fine structure and function of ocular tissues. The vitreous. Balazs EA
Int Ophthalmol Clin (UNITED STATES) Fall 1973, 13 (3) p169-87, ISSN 0020-8167 Journal Code: GTZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW
(14 Refs.)

18/7/31
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02274316 73253316
Optical properties of hyaluronic acid. Ultraviolet circular dichroism and optical rotatory dispersion.
Chakrabarti B; Balazs EA
J Mol Biol (ENGLAND) Jun 25 1973, 78 (1) p135-41, ISSN 0022-2836 Journal Code: J6V
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/32
DIALOG(R)File 155:MEDLINE(R)
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02237176 73216176
Induced Cotton effects of hyaluronic acid-acridine orange complex and conformation of the polymer.
Chakrabarti B; Balazs EA
Biochem Biophys Res Commun (UNITED STATES) Jun 19 1973, 52 (4) p1170-6 , ISSN 0006-291X Journal Code: 9Y8
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/33
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02116340 73095340
Hyaluronic acid: a novel, double helical molecule.
Dea IC; Moorhouse R; Rees DA; Arnott S; Guss JM; Balazs EA Science (UNITED STATES) Feb 9 1973, 179 (73) p560-2, ISSN 0036-8075 Journal Code: UJ7
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/34
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

02017967 72267967
Hyaluronic acid and replacement of vitreous and aqueous humor. Balazs EA; Freeman MI; Kloti R; Meyer-Schwickerath G; Regnault F; Sweeney DB
Mod Probl Ophthalmol (SWITZERLAND) 1972, 10 p3-21, ISSN 0077-0078 Journal Code: NG4
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/35
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

01830253 72080253
Effect of intra-articular injection of hyaluronic acid on the clinical symptoms of osteoarthritis and on granulation tissue formation. Rydell N; Balazs EA
Clin Orthop (UNITED STATES) Oct 1971, 80 p25-32, ISSN 0009-921X Journal Code: DFY
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/36
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

01670092 71215092
Effect of connective tissue intercellular matrix on lymphocyte stimulation.
Darzynkiewicz Z; Balazs EA
Exp Cell Res (UNITED STATES) May 1971, 66 (1) p113-23, ISSN 0014-4827 Journal Code: EPB
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/37
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

01413716 70258716
Hyaluronic acid in synovial fluid. VI. Effect of intra-articular injection of hyaluronic acid on the clinical symptoms of arthritis in track horses.
Butler J; Rydell NW; Balazs EA
Acta Vet Scand (DENMARK) 1970, 11 (2) p139-55, ISSN 0044-605X Journal Code: 27V
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/38
DIALOG(R)File 155:MEDLINE(R)

01155576 70000576
Hyaluronic acid in synovial fluid. 3. Effect of maturation and aging on the chemical properties of bovine synovial fluid of different joints. Seppala PO; Balazs EA
J Gerontol (UNITED STATES) Jul 1969, 24 (3) p309-14, ISSN 0022-1422 Journal Code: IAV
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/39
DIALOG(R)File 155:MEDLINE(R)

00992617 69137617
Macromolecular composition and fine structure of the vitreous in the owl monkey.
Osterlin SE; Balazs EA
Exp Eye Res (ENGLAND) Oct 1968, 7 (4) p534-45, ISSN 0014-4835 Journal Code: EPL
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/40
DIALOG(R)File 155:MEDLINE(R)

00923419 69068419
Viscoelastic properties of hyaluronic acid and biological lubrication. Balazs EA
Univ Mich Med Cent J (UNITED STATES) 1968, p255-9, ISSN 0041-9826 Journal Code: WQO
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/41
DIALOG(R)File 155:MEDLINE(R)

00718353 68278353
Rheology of hyaluronic acid.
Gibbs DA; Merrill EW; Smith KA; Balazs EA
Biopolymers (UNITED STATES) Jun 1968, 6 (6) p777-91, ISSN 0006-3525 Journal Code: A5Z
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/42
DIALOG(R)File 155:MEDLINE(R)

00712520 68272520
Ppolyanions and their complexes. 3. Reactions of heparin, hyaluronic acid, sodium poly(ethylenesulphonate), sodium poly(styrenesulphonate), and sodium carboxymethylcellulose with hydroxyl radicals and hydrated electrons.
Balazs EA; Davies JV; Phillips GO; Scheufele DS
J Chem Soc [Perkin 1] (ENGLAND) 1968, 12 p1420-3, ISSN 0300-922X Journal Code: HO7
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/43
DIALOG(R)File 155:MEDLINE(R)

00441289 68001289
Polyanions and their complexes. II. Light-induced paramagnetism in solid glycosaminoglycan-dye complexes.
Balazs EA; Phillips GO; Young MD
Biochim Biophys Acta (NETHERLANDS) Jul 25 1967, 141 (2) p382-90, ISSN 0006-3002 Journal Code: A0W
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/44
DIALOG(R)File 155:MEDLINE(R)

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00434786 67259786
Hyaluronic acid in synovial fluid. I. Molecular parameters of hyaluronic acid in normal and arthritis human fluids.
Balazs EA; Watson D; Duff IF; Roseman S
Arthritis Rheum (UNITED STATES) Aug 1967, 10 (4) p357-76, ISSN 0004-3591 Journal Code: 90M
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/45
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

00226536 67051536
Sediment volume and viscoelastic behavior of hyaluronic acid solutions. Balazs EA
Fed Proc (UNITED STATES) Nov-Dec 1966, 25 (6) p1817-22, ISSN 0014-9446 Journal Code: EUV
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/46
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

00187424 67012424
The replacement of the vitreous body in the monkey by reconstituted vitreous and by hyaluronic acid.
Balazs EA; Sweeney DB
Bibl Ophthalmol (SWITZERLAND) 1966, 70 p230-2, ISSN 0067-8090 Journal Code: 9V4
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/47
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

00081675 66081675
An automated method for the determination of hexuronic acids. Balazs EA; Berntsen KO; Karossa J; Swann DA
Anal Biochem (UNITED STATES) Sep 1965, 12 (3) p547-58, ISSN 0003-2697 Journal Code: 4NK
Languages: ENGLISH
Document type: JOURNAL ARTICLE

18/7/48
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

00034396 66034396
An electron microscopic study of hyalocytes.
Bloom GD; Balazs EA
Exp Eye Res (ENGLAND) Sep 1965, 4 (3) p249-55, ISSN 0014-4835 Journal Code: EPL
Languages: ENGLISH
Document type: JOURNAL ARTICLE
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16/7/1
DIALOG(R)File 155:MEDLINE(R)
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05093634 84017634
The neutrophil in rheumatoid arthritis: its role and the inhibition of its activation by nonsteroidal antiinflammatory drugs.
Abramson S; Edelson H; Kaplan H; Given W; Weissmann G
Semin Arthritis Rheum (UNITED STATES) Aug 1983, 13 (1 Suppl 1) p148-53 , ISSN 0049-0172 Journal Code: UMV
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The activation of the polymorphonuclear leukocyte (PMN) in rheumatoid arthritis produces toxic products that include lysosomal enzymes, stable prostaglandins, and leukotrienes and causes the release of superoxide anion. These products produce the inflammatory response, damage cell membranes, and degrade hyaluronic acid. The inhibition of prostaglandin synthetase by NSAIDs does not, by itself, account for their effectiveness in preventing inflammation in rheumatoid arthritis. In vivo and in vitro experiments were conducted to determine if NSAIDs also exert an effect on neutrophil activation. The NSAIDs tested inhibited discrete PMN functions dependent upon the stimulus tested. The antiinflammatory effects of NSAIDs cannot be entirely explained by their inhibition of prostaglandin synthetase and may, in part, be due to other direct effects upon inflammatory cell activation.
? t 12/7/1-49

12/7/1
DIALOG(R)File 155:MEDLINE(R)
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09097025 95027025
Beneficial effect of thromboxane A2 synthetase inhibitor on cold-stored rat liver.
Suehiro T; Yanaga K; Itasaka H; Kishikawa K; Shirabe K; Sugimachi K Department of Surgery II, Faculty of Medicine, Kyushu University, Fukuoka, Japan.
Transplantation (UNITED STATES) Oct 15 1994, 58 (7) p768-73, ISSN 0041-1337 Journal Code: WEJ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Prostanoids such as prostacyclin and thromboxane A2 have recently been suggested to play important roles in cold ischemia/reperfusion injury. The purpose of this study was to investigate the effect of thromboxane A2 synthetase inhibitor (OKY-046) on cold-stored livers of the rat using an ex vivo perfusion system. Addition of OKY-046 to preservation solution and the perfusate of livers stored cold (4 degrees C) in lactated Ringer's solution resulted in significantly lower glutamic pyruvic transaminase release (3.01 +/- 0.86 IU/g liver vs. 1.79 +/- 1.08 IU/g liver at 120 min after perfusion; P < 0.05), reduced perfusate ammonia levels (8.51 +/- 2.51 micrograms/dl/g liver vs. 3.62 +/- 1.71 micrograms/dl/g liver at 60 min; P < 0.05 and thereafter), lower perfusate taurocholate levels (0.63 +/- 0.10 vs. 0.18 +/- 0.05 at 15 min; P < 0.01 and thereafter), perfusate hyaluronic acid clearance (0.934 +/- 0.132 vs. 0.76 +/- 0.127 at 30 min; P < 0.05 and thereafter), and a reduced number of trypan blue-positive sinusoidal lining cells (50.1 +/- 9.9%; vs. 17.4 +/- 7.0%; P < 0.01). Histologically, the liver preserved for 6 hr in simple cold lactated Ringer's solution exhibited interstitial edema, various degrees of hepatocyte swelling, and sinusoidal stenosis, as well as dilatation, while the livers treated with OKY-046 demonstrated much less hepatocyte swelling, and change in sinusoidal width was nearly absent. We conclude that OKY-046 reduces post-preservation reoxygenation injury by protecting sinusoidal endothelial cells and hepatocytes.

12/7/2
DIALOG(R)File 155:MEDLINE(R)

08902122 94217122
Effect of 1,25-dihydroxyvitamin D3 on interleukin 1 beta actions and cell growth in human synovial fibroblast cultures.
Yaron I; Meyer FA; Weisman Y; Yaron M
Department of Rheumatology, Ichilov Hospital, Tel Aviv, Israel. J Rheumatol (CANADA) Sep 1993, 20 (9) p1527-32, ISSN 0315-162X Journal Code: JWX
Languages: ENGLISH
Document type: JOURNAL ARTICLE
OBJECTIVE. To investigate the effects of vitamin D3 [1,25-(OH)2D3] metabolites on interleukin 1 beta (IL-1 beta) stimulated secretory activities and on the proliferation of human synovial fibroblasts in culture. METHODS. Dose dependent effects on IL-1 beta actions were determined in nonproliferating cultures containing 1% fetal calf serum (FCS) in the culture medium. Production of prostaglandin E (PGE), collagenase and hyaluronic acid (HA) was measured respectively by radioimmunoassay, enzymatic degradation of radiolabelled collagen gels after collagenase activation and 14C-glucosamine incorporation. Effects on cell growth in 10% FCS were monitored colorimetrically, by staining cells with crystal violet. RESULTS. 1,25-(OH)2D3 inhibited the effects of IL-1 beta on PGE production by up to 90%, with half maximal inhibition at 2.0 x 10(-10) M. Inhibitory effects on stimulated collagenase and HA production and cell growth were also found but were less marked. At 10(-7) M 1,25-(OH)2D3 inhibition was 50, 21 and 50%, respectively. 24,25-dihydroxyvitamin D3 was a less potent inhibitor than 1,25-(OH)2D3. Neither metabolite influenced IL-1 beta effects on PGE or sulfated glycosaminoglycan production in human articular cartilage in tissue culture. CONCLUSION. Our results suggest that the active metabolites of vitamin D3 may modulate the behavior of synovial fibroblasts in articular inflammatory processes.

12/7/3
DIALOG(R)File 155:MEDLINE(R)

08647275 93357275
Regulation of hyaluronate production by interleukin 1 in cultured human chorionic cells.
Ito A; Shimada M; Mori Y
Department of Biochemistry, Tokyo College of Pharmacy, Japan. Biochim Biophys Acta (NETHERLANDS) Aug 20 1993, 1158 (1) p91-7, ISSN 0006-3002 Journal Code: A0W
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Human chorionic cells in culture synthesized and secreted a large amount of hyaluronate as well as tissue collagenase. When these cells were treated with human recombinant interleukin 1 alpha (hrIL-1), the biosynthesis and secretion of hyaluronate were predominantly accelerated, but those of sulfated glycosaminoglycans were not modulated. This promotive effect of hrIL-1 was not due to the increase in endogenous prostaglandins including prostaglandin E2 since cyclooxygenase inhibitors, indomethacin and diclofenac did not modulate the IL-1-mediated production of hyaluronate. On the other hand, the cotreatment of chorionic cells with hrIL-1 and cycloheximide suppressed the IL-1-mediated hyaluronate production, suggesting that protein, de novo, synthesis required for the enhancement of hyaluronate synthesis. Upon treatment with hrIL-1, the membrane bound-hyaluronate synthase activity was increased up to 5-fold in a time-dependent manner. On the other hand, when chorionic cells were treated with hrIL-1 and/or protein kinase C inhibitor, 1-(5-isoquinolinesulfonyl)-2-methyl-pyperadine hydrochloride (H7), the IL-1-mediated production of hyaluronate was effectively suppressed. Similarly, H7 effectively suppressed the protein kinase activator, 12-O-tetradecanoyl-phorbol-13-acetate-enhanced production of glycosaminogly cans with a similar extent. These results indicate that IL-1-induced acceleration of hyaluronate production was reflected on the increase in hyaluronate synthase activity, and that protein kinase C participates positively in the IL-1-signal transduction for the increased synthesis of hyaluronate in human chorionic cells.

12/7/4
DIALOG(R)File 155:MEDLINE(R)

08605114 93315114
Gram-negative bacterial lipopolysaccharide impairs hyaluronan clearance in vivo and its uptake by the isolated, perfused rat liver. Deaciuc IV; Bagby GJ; Lang CH; Skrepnik N; Spitzer JJ
Department of Physiology, Louisiana State University Medical Center, New Orleans 70112.
Hepatology (UNITED STATES) Jul 1993, 18 (1) p173-8, ISSN 0270-9139 Journal Code: GBZ
Contract/Grant No.: IGMS 32654, GM, NIGMS
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The purpose of this investigation was to examine the effect of gram-negative bacterial lipopolysaccharide on hyaluronan concentration in blood plasma, hyaluronan removal from the blood and hyaluronan uptake by isolated, perfused rat liver. Intravenous administration of Escherichia coli lipopolysaccharide to rats markedly increased plasma hyaluronan concentration in a dose-dependent manner. One day after lipopolysaccharide challenge (0.1 or 1.0 mg per 100 gm body wt), plasma hyaluronan levels were 570.7 +/- 66.8 ng x ml-1 and 1,951.0 +/- 120.3 ng x ml-1, respectively, as compared with 94.2 +/- 12.2 ng x ml-1 in the time-matched control animals. Removal of intravenously injected hyaluronan (30 micrograms per 100 gm body wt) was suppressed 32% by lipopolysaccharide administration (100 micrograms per 100 gm body wt). At the same dose, lipopolysaccharide induced a severe inhibition (60% to 80%) of hyaluronan uptake by perfused livers isolated 3 or 24 hr after

lipopolysaccharide administration. The inhibitory effect of lipopolysaccharide on hyaluronan uptake by the isolated, perfused liver was not abolished by pretreatment with either antibodies to tumor necrosis factor-alpha IgG or indomethacin, an inhibitor of the cyclooxygenase pathway. Continuous intravenous infusion of recombinant murine tumor necrosis factor-alpha for 18 to 20 hr did not affect plasma hyaluronan concentration. These data suggest that neither tumor necrosis factor-alpha, an early cytokine induced by lipopolysaccharide, nor prostaglandins are involved in the mechanism of lipopolysaccharide-induced inhibition of hyaluronan uptake by the perfused rat liver.(ABSTRACT TRUNCATED AT 250 WORDS)

12/7/5
DIALOG(R)File 155:MEDLINE(R)

08567516 93277516
Prostaglandin E2 stimulates cyclic AMP-mediated hyaluronan synthesis in rabbit pericardial mesothelial cells.
Honda A; Sekiguchi Y; Mori Y
Department of Biochemistry, Tokyo College of Pharmacy, Japan. Biochem J (ENGLAND) Jun 1 1993, 292 (Pt 2) p497-502, ISSN 0264-6021 Journal Code: 9YO
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We studied the effects of prostaglandin E2 (PGE2) on hyaluronan synthesis in rabbit pericardial mesothelial cells, and the following results were obtained. (1) PGE2 (10-1000 ng/ml) stimulated hyaluronan synthesis and the level of hyaluronan synthase activity in a dose- and time-dependent manner, but PGF2 alpha did not. (2) Cyclic AMP (cAMP) levels in the cells peaked (about a 7-fold increase) at 5-10 min after adding PGE2 (1000 ng/ml). (3) Increased hyaluronan synthesis induced by PGE2 was significantly inhibited after pretreatment with either an adenylate cyclase inhibitor (2',5'-dideoxyadenosine) or a cAMP-dependent protein kinase inhibitor (PKI 5-24), but there was no inhibition with the protein kinase C inhibitor H-7. (4) When the intracellular cAMP level was raised by manipulating the levels of dibutyryl cyclic AMP or forskolin, hyaluronan synthesis and the level of hyaluronan synthase activity were also stimulated. These results suggest that PGE2 produced by cells stimulates hyaluronan synthesis in rabbit pericardial cells and that the stimulation mechanism involves the cAMP-mediated protein kinase signal transduction process.

12/7/6
DIALOG(R)File 155:MEDLINE(R)

08533141 93243141
In vitro effects of hyaluronan on prostaglandin E2 induction by interleukin-1 in rabbit articular chondrocytes.
Akatsuka M; Yamamoto Y; Tobetto K; Yasui T; Ando T
Division of Biochemical Pharmacology, Maruho Co., Ltd., Osaka, Japan. Agents Actions (SWITZERLAND) Jan 1993, 38 (1-2) p122-5, ISSN 0065-4299 Journal Code: 2XZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Effects of hyaluronan (HA) on the prostaglandin E2 (PGE2) production induced by recombinant human interleukin-1 beta (rhIL-1 beta) in rabbit articular chondrocytes were studied in vitro. The rhIL-1 beta-induced PGE2 production was dose-dependently inhibited by HA. HA with the highest molecular weight (M(r) = 2.0 x 10(6)) exhibited an inhibitory effect that was statistically more significant than the same polymer of lower molecular weights (M(r) = 1.0 x 10(6), 0.5 x 10(6)). This effect was observed in both young and adult rabbit articular chondrocytes. Since PGE2 has been implicated as a mediator of inflammatory joint diseases, our observations suggest that HA may elicit an anti-inflammatory effect by inhibiting PGE2 production.

12/7/7
DIALOG(R)File 155:MEDLINE(R)

08523070 93233070
Methotrexate inhibits proliferation but not interleukin 1 stimulated secretory activities of cultured human synovial fibroblasts. Meyer FA; Yaron I; Mashiah V; Yaron M
Department of Rheumatology, Ichilov Hospital, Tel Aviv Medical Center, Israel.
J Rheumatol (CANADA) Feb 1993, 20 (2) p238-42, ISSN 0315-162X Journal Code: JWX
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The effect of methotrexate (MTX) on proliferation and on interleukin 1 stimulated secretory activities of human synovial fibroblasts in culture was investigated. MTX caused a dose dependent inhibition of growth over the concentration range 0.07-2.2 microM with a half-maximal effect at 0.37 microM. INhibition was competitively relieved by coaddition of leucovorin. Cell growth was fully restored after MTX pretreatment of 24 h but not after 48 h, even on subsequent leucovorin addition. Cell viability was unaffected by MTX treatment. MTX had no effect on interleukin 1 stimulated production of prostaglandin E, hyaluronic acid and collagenase. Our results raise the possibility that one of the mechanisms contributing to the therapeutic effects of MTX in patients with rheumatoid arthritis may involve modulation of synovial fibroblast growth.

12/7/8
DIALOG(R)File 155:MEDLINE(R)

08379203 93089203
The effect of hyaluronan on interleukin-1 alpha-induced prostaglandin E2 production in human osteoarthritic synovial cells.
Yasui T; Akatsuka M; Tobetto K; Hayaishi M; Ando T
Division of Biochemical Pharmacology, Maruho Co., Ltd, Osaka, Japan. Agents Actions (SWITZERLAND) Sep 1992, 37 (1-2) p155-6, ISSN 0065-4299 Journal Code: 2XZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
An in vitro study on the effects of hyaluronan (HA) on interleukin-1 alpha-induced prostaglandin E2 (PGE2) production in human osteoarthritic synovial cells indicated that PGE2 induction was suppressed by HA in a dose- and molecular weight-dependent manner.

12/7/9
DIALOG(R)File 155:MEDLINE(R)

08032547 92170547
Relationship of blood markers to disease severity and drug efficacy in rat adjuvant arthritis.
Doughty JR; Goldberg RL; Schenkelaars EJ; Singh HN; Peppard J; Haston W; Blancuzzi VJ; Di Pasquale G
Research Department, CIBA-GEIGY Corporation, Summit, NJ 07901. Agents Actions (SWITZERLAND) Sep 1991, 34 (1-2) p129-31, ISSN 0065-4299 Journal Code: 2XZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Rat adjuvant arthritis (AA) was used as a model to evaluate several blood markers as possible predictive indicators of drug efficacy. AA was induced in Sprague-Dawley rats by the injection of complete Freund's adjuvant into the right hind foot pad. The rats were dosed p.o. from day 18 to day 31 with levamisole (10 mg/kg), indomethacin (1 mg/kg), diclofenac sodium (0.5 & 1 mg/kg), and prinomide (10 & 20 mg/kg). Disease severity was assessed by paw circumference on day 31. The following blood markers were analyzed: hyaluronate by ELISA, prostaglandin E2 by RIA, ESR by micro-dispette, total PMN by Technicon H-1, and albumin by BCG dye. Blood marker correlation (r) to disease severity was: hyaluronate (0.71), prostaglandin E2 (0.58), ESR (0.52), PMN (0.58), and albumin (-0.71). The relative rank order of drug efficacy (indomethacin, diclofenac sodium, and prinomide) did not differ using the change in paw circumference (day 31-day 17) or blood markers. Levamisole exacerbated the disease as measured by all the above parameters. Thus, these blood markers provide additional information for the statistical evaluation of drugs in rat adjuvant arthritis.

12/7/10
DIALOG(R)File 155:MEDLINE(R)

07904619 92042619
A follow-up study of sperm preparation for IVF by swim-up in a solution of hyaluronate.
Sjoblom P; Wikland M
University of Goteborg, Department of Obstetrics and Gynaecology, Sahlgrenska University Hospital, Sweden.
Hum Reprod (ENGLAND) May 1991, 6 (5) p722-6, ISSN 0268-1161 Journal Code: HRP
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Spermatozoa prepared for in-vitro fertilization (IVF) by swim-up in a balanced salt solution containing hyaluronate gave rates of fertilization, cleavage and pregnancy which were not significantly different from those obtained with sperm prepared by swim-up in standard IVF medium followed by centrifugation. However, the content of prostaglandin F2alpha in the final sperm suspension was higher using hyaluronate but this seemed to be of no consequence for IVF. Thus, preparation of normal sperm samples for IVF may be simplified by performing swim-up in a balanced salt solution containing hyaluronate.

12/7/11
DIALOG(R)File 155:MEDLINE(R)

07506153 91025153
Synergistic, additive, and antagonistic effects of interleukin-1 beta, tumor necrosis factor alpha, and gamma-interferon on prostaglandin E, hyaluronic acid, and collagenase production by cultured synovial fibroblasts.
Meyer FA; Yaron I; Yaron M
Department of Rheumatology, Ichilov Hospital, Tel-Aviv, Israel. Arthritis Rheum (UNITED STATES) Oct 1990, 33 (10) p1518-25, ISSN 0004-3591 Journal Code: 90M
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The effects of binary combinations of the recombinant human cytokines, interleukin-1 beta (rHuIL-1 beta), tumor necrosis factor alpha (rHuTNF alpha), and gamma-interferon (rHu gamma-IFN) on the production of prostaglandin E (PGE), hyaluronic acid (HA), and collagenase by human synovial fibroblasts in culture were investigated. All 3 were stimulated by rHuIL-1 beta and rHuTNF alpha alone, but not by rHu gamma-IFN. Stimulation with rHuIL-1 beta and rHuTNF alpha occurred at femtomolar and picomolar concentrations, respectively, and maximal stimulation by rHuIL-1 beta was several times greater than that by rHuTNF alpha. Stimulation of PGE and collagenase production with rHuIL-1 beta or rHuTNF alpha was depressed by rHu gamma-IFN, depending on the concentration used. In contrast, stimulation of HA production with rHuIL-1 beta or rHuTNF alpha was unaffected or increased somewhat with rHu gamma-IFN. Combinations of rHuIL-1 beta or rHuTNF alpha had marked synergistic effects on PGE and collagenase production. However, when rHuIL-1 beta effects were maximal, rHuTNF alpha had an additive effect. These cytokines had only additive effects on HA production, however, and when rHuIL-1 beta effects were maximal, rHuTNF alpha produced no further stimulation. These data suggest that the secretory activities of synovial fibroblasts can be influenced by a combination of cytokines and is dependent on the type of cytokine present and its concentration.

12/7/12
DIALOG(R)File 155:MEDLINE(R)

07505670 91024670
The induction of specific metabolic alterations in mouse calvarial organ cultures by glycosaminoglycans.
Cochran DL; Wisner LA; Richards MF; Rouse CA
Department of Periodontics, Medical College of Virginia, Virginia Commonwealth University, Richmond 23284.
Arch Oral Biol (ENGLAND) 1990, 35 (7) p515-22, ISSN 0003-9969 Journal Code: 83M
Contract/Grant No.: DEO 7681, DE, NIDR
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Glycosaminoglycans specifically regulate the amount of calcium released from bone cultures; the mechanisms responsible for this regulation are not known. Media from glycosaminoglycan-stimulated bone organ cultures were analysed to determine (1) if specific calcium-releasing substances were selectively produced, and (2) if protein synthesis was differentially affected by glycosaminoglycans. Chondroitin sulphate B, hyaluronic acid and keratan sulphate at 100 micrograms/ml significantly increased prostaglandin release when compared with control cultures. In combination with suboptimal concentrations of PTH, chondroitin sulphate B, heparin and keratan sulphate significantly stimulated prostaglandin release. When indomethacin was included in the test assays, the stimulated prostaglandin release was abolished. Heparin-treated cultures released the greatest percentage of latent collagenase activity followed by hyaluronic acid-treated cultures. Organ cultures treated with heparin and PTH amount of active collagenase. Stimulation increased interleukin-1 above control levels but with no significant difference among the glycosaminoglycans except for keratan sulphate cultures with which had the greatest amount of interleukin-1. Collagen protein decreased between 48 and 72 h under both control and experimental conditions. Examination of the predominant [35S]-methionine labelled proteins revealed that prostaglandin E2 treatment resulted in a relative shift in labelling to higher molecular-weight proteins as time in culture increased (up to 144 h). After 48 h, when equal amounts of labelled protein were analysed, there was a predominance in labelling of a 200,000 Da protein in the prostaglandin-treated cultures. These findings demonstrate that modulation of calcium release by glycosaminoglycans results in the selective release of molecules capable of stimulating calcium release.(ABSTRACT TRUNCATED AT 250 WORDS)

12/7/13
DIALOG(R)File 155:MEDLINE(R)

07373784 90280784
Cyclooxygenase and lipoxygenase inhibitors--induced changes in the distribution of glycosaminoglycans in the pregnant rat uterine cervix. Cabrol D; Dallot E; Bienkiewicz A; el Alj A; Sedbon E; Cedard L INSERM U 166, Paris, France.
Prostaglandins (UNITED STATES) May 1990, 39 (5) p515-23, ISSN 0090-6980 Journal Code: Q76
Languages: ENGLISH
Document type: JOURNAL ARTICLE
In order to study the hormonal control mechanisms of cervical maturation, we investigated cyclooxygenase and 5-lipoxygenase inhibitors-induced changes in the distribution of glycosaminoglycans (GAG) in pregnant Wistar rat uterine cervices at term. The GAG were measured in a control (n = 11), in a Diclofenac (cyclooxygenase inhibitor) treated group (n = 8), in a BW 755C (dual inhibitor of cyclooxygenase and 5-lipoxygenase) treated group (n = 6), and a L 651392 (5-lipoxygenase inhibitor) treated group (n = 9). The results of these studies suggest, that cervical hyaluronic acid metabolism and cervical hydration are controlled in association by prostaglandins and leukotrienes (and perhaps by other phospholipids metabolites), whereas heparan sulphate metabolism is obviously controlled by prostaglandins. Nevertheless complete and normal cervical maturation is probably controlled in association by arachidonic acid metabolites and other factors (steroids and peptides).

12/7/14
DIALOG(R)File 155:MEDLINE(R)

07259049 90166049
Metalloproteinases and cartilage proteoglycan depletion in chronic arthritis. Comparison of antigen-induced and polycation-induced arthritis. Henderson B; Pettipher ER; Murphy G
Department of Pharmacology, Wellcome Research Laboratories, Kent, United Kingdom.
Arthritis Rheum (UNITED STATES) Feb 1990, 33 (2) p241-6, ISSN 0004-3591 Journal Code: 90M
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Chronic monarticular arthritis can be induced in ovalbumin-sensitized rabbits by intraarticular injection of ovalbumin (antigen-induced arthritis) or in naive rabbits by injecting hyaluronic acid mixed with the polycation poly-D-lysine (polycation-induced arthritis). Both models show some points of similarity, including joint swelling, the presence of inflammatory leukocytes and the inflammatory mediator prostaglandin E2, and the kinetics of cartilage proteoglycan loss. However, the assessment of the capacity of synovial lining and articular cartilage to synthesize and secrete neutral metalloproteinases reveals a difference between these models. We found that articular cartilage from the inflamed joints of rabbits with antigen-induced arthritis did not synthesize neutral metalloproteinases, although the synovial lining did. In contrast, both the synovial lining and the articular cartilage from the inflamed joints of rabbits with polycation-induced arthritis synthesized neutral metalloproteinases. These findings suggest that in inflammatory synovitis, different mechanisms can operate to produce damage to the matrix of articular cartilage.

12/7/15
DIALOG(R)File 155:MEDLINE(R)

07124555 90031555
Effects of interleukin-1 and lipopolysaccharides on protein and carbohydrate metabolism in bovine articular cartilage organ cultures. Morales TI; Hascall VC
Bone Research Branch, National Institute of Dental Research, Bethesda, Maryland 20892.
Connect Tissue Res (ENGLAND) 1989, 19 (2-4) p255-75, ISSN 0300-8207 Journal Code: DQH
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The long term (18 day) metabolic response of bovine articular cartilage to treatment with either E. Coli lipopolysaccharide (LPS) or interleukin 1 was studied. For LPS treatment, incorporation of [35S]sulfate into the large proteoglycan population was inhibited 80% while that into the small interstitial proteoglycans was only inhibited 40%. Incorporation of [3H]serine into the large proteoglycan population was inhibited approximately 72% while incorporation into other protein was inhibited only 16%. Furthermore, the rate of catabolism of [3H]serine labeled proteoglycans was increased 2-fold by LPS treatment while the rate of 3H-labeled general protein catabolism was not affected. Incorporation of [3H]glucosamine into hyaluronate was increased; however a correction for changes in the specific activity of the intracellular [3H]glucosamine precursor pool in LPS-treated cultures indicated that the net amount of hyaluronate synthesized was not altered by LPS treatment. The 3H/35S ratios in isolated chondroitin sulfate disaccharides labeled with [35S]sulfate and [3H]glucosamine precursors were significantly changed during long term LPS treatment, suggesting that general carbohydrate pathways are altered. The 3H/35S changes were larger in the disaccharides isolated from the small proteoglycans indicating that different precursor pools, probably in different cell populations, preferentially synthesize this proteoglycan population. Interleukin-1 affected the same chondrocytic pathways as LPS as shown by a) the extent of inhibition of proteoglycan synthesis, b) the selective inhibition of synthesis of the large proteoglycan species, c) acceleration of proteoglycan catabolism, d) net depletion of proteoglycans from the tissue, e) increases in guanidine HCl extractable [3H]hyaluronate, f) increases in levels of prostaglandin E2 synthesis, g) changes in 3H/35S ratios in glycosaminoglycan chains and, h) minimal effects on general protein synthesis.

12/7/16
DIALOG(R)File 155:MEDLINE(R)

07073055 89375055
Effect of diclofenac on prostaglandin E and hyaluronic acid production by human synovial fibroblasts stimulated with interleukin-1.
Meyer FA; Yaron I; Mashiah V; Yaron M
Department of Rheumatology, Ichilov Hospital, Tel Aviv, Israel. Br J Clin Pharmacol (ENGLAND) Aug 1989, 28 (2) p193-6, ISSN 0306-5251 Journal Code: AU9
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Cultured human synovial fibroblasts were stimulated with human recombinant interleukin 1 beta to overproduce prostaglandin E (PGE) and hyaluronic acid (HA). Diclofenac, indomethacin and hydrocortisone inhibited stimulation of PGE production. Half-maximal inhibition occurred at 1.10 x 10(-9), 2.79 x 10(-8) and at 5.52 x 10(-8) M, respectively. Diclofenac or indomethacin had no effect on HA production, while hydrocortisone had an inhibitory effect (half-maximal inhibition at 2.76 x 10(-7) M). This model could be a useful in vitro indicator for the in vivo pharmacological actions of anti-inflammatory drugs.

12/7/17
DIALOG(R)File 155:MEDLINE(R)

07026157 89328157
Regulation of sulfated glycosaminoglycan production by prostaglandin E2 in cultured lung fibroblasts.
Karlinsky JB; Goldstein RH
Pulmonary Center, Boston University School of Medicine, MA. J Lab Clin Med (UNITED STATES) Aug 1989, 114 (2) p176-84, ISSN 0022-2143 Journal Code: IVR
Contract/Grant No.: HL 19707; HL 39865; AG05941
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Prostaglandin E2 (PGE2) has been shown to increase the synthesis of hyaluronic acid in cultured fibroblasts by increasing the activity of hyaluronate synthetase, a group of plasma membrane-bound synthetic enzymes. We examined whether PGE2 also increased the activity of those enzyme systems involved in the synthesis of sulfated glycosaminoglycan in the human embryonic lung fibroblast. Exposure of cells to PGE2 resulted in dose-dependent increases in glucosamine incorporation into all sulfated glycosaminoglycan subtypes. PGE2 at 10(-7) mol/L increased total glycosaminoglycan per dish to 21.6 +/- 3.1 micrograms versus 12.0 +/- 2.5 micrograms in control untreated cultures. Stimulation of endogenous PGE2 production by bradykinin had a similar effect on glycosaminoglycan synthesis. To examine whether PGE2 affected sulfated glycosaminoglycan protein core production, cells were labeled with tritiated glucosamine in the presence of cycloheximide. Under these conditions, incorporation of radiolabel into all glycosaminoglycan subtypes was reduced. However, when exogenous sulfated glycosaminoglycan chain initiator (p-nitrophenyl beta-D-xyloside) was added, incorporation of tritiated glucosamine into sulfated glycosaminoglycan increased but not to levels found in control cultures. Application of PGE2 to cultures treated with cycloheximide alone, or to cultures treated with cycloheximide plus xyloside, increased tritiated glucosamine incorporation into chondroitin, dermatan sulfate, and to a lesser extent into heparan sulfate. We conclude that PGE2 stimulates synthesis of all sulfated glycosaminoglycan even in the absence of new protein core production, probably by increasing activities of sulfated glycosaminoglycan synthetase enzymes. PGE2 stimulation of heparan sulfate synthesis is partially dependent on the availability of heparan sulfate-specific protein core.

12/7/18
DIALOG(R)File 155:MEDLINE(R)

06925795 89227795
Interleukin-1 stimulates proteoglycan and hyaluronic acid production by human gingival fibroblasts in vitro.
Bartold PM
Aust Dent J (AUSTRALIA) Dec 1988, 33 (6) p467-75, ISSN 0045-0421 Journal Code: 9EB
Languages: ENGLISH
Document type: JOURNAL ARTICLE

12/7/19
DIALOG(R)File 155:MEDLINE(R)

06913270 89215270
Stimulation of human synovial fibroblast DNA synthesis by platelet-derived growth factor and fibroblast growth factor. Differences to the activation by IL-1.
Butler DM; Leizer T; Hamilton JA
Department of Medicine, University of Melbourne, Parkville, Australia. J Immunol (UNITED STATES) May 1 1989, 142 (9) p3098-103, ISSN 0022-1767 Journal Code: IFB
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The pronounced synovial hyperplasia often found in the joints of patients with rheumatoid arthritis could be explained partially by the action of monocyte-macrophage polypeptides (monokines). This report demonstrates that two cytokines which may be derived from monocyte-macrophage populations, namely platelet-derived growth factor (PDGF) and basic fibroblast growth factor (bFGF), stimulate the DNA synthesis and proliferation of human synovial fibroblast-like cells cultured in low (i.e., 1%) fetal bovine serum. Epidermal growth factor, insulin-like growth factor-I, insulin-like growth factor-II (multiplication stimulating activity) and substance P were inactive. Unlike IL-1, PDGF and FGF do not also stimulate PGE2, plasminogen activator, and hyaluronic acid levels. Thus PDGF and FGF, arising from stimulated monocyte-macrophages, may play a role in the stimulation of mesenchymal cell proliferation that often accompanies chronic inflammatory arthritic disease. The synovial cells respond to a variety of cytokines in different ways suggesting multiple-signaling pathways.

12/7/20
DIALOG(R)File 155:MEDLINE(R)

06819641 89121641
[Experimental knee pain model in rats and analgesic effect of sodium hyaluronate (SPH)]
Gotoh S; Miyazaki K; Onaya J; Sakamoto T; Tokuyasu K; Namiki O Tokyo Research Institute, Seikagaku Kogyo Co., Ltd., Japan. Nippon Yakurigaku Zasshi (JAPAN) Jul 1988, 92 (1) p17-27, ISSN 0015-5691 Journal Code: F2X
Languages: JAPANESE Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
Using the model of knee pain reaction induced by intra-articular injection of endogenous pain substances, especially bradykinin (BK) in rats, the mechanism of the analgesic effect of sodium hyaluronate (SPH) was investigated. The simultaneous administration of prostaglandin E2 with BK or hyaluronidase digestion of endogenous hyaluronic acid (HA) in our experiments brought remarkable hyperalgesia on BK-induced knee pain. These results suggest that higher sensitivity to the pain reaction is induced in a diseased joint (higher prostaglandin content, lower concentration and molecular size of HA in synovial fluid) than in a normal one. SPH definitely decreased BK-induced pain, and its analgesic effect was observed for a longer period, depending on its dose in pre-treatment and the degree of its distribution in synovial tissues. As the analgesic effect of SPH was observed in the hyaluronidase-treated joint as well, it is suggested that the increasing viscosity of synovial fluid caused by increasing HA concentration can decrease the pain even without normalizing molecular size of HA in the joint. HA oligomer and other compounds with similar viscosity or with similar polyanionic character as SPH showed no analgesic effect. From these results, it seems that the characteristic steric configurations of higher molecular HA are needed for the manifestation of the analgesic effect. SPH seems to show its analgesic effect by covering pain receptors in synovial tissues and holding endogenous pain substances in its molecule.

12/7/21
DIALOG(R)File 155:MEDLINE(R)

06428543 88073543
Catabolin/interleukin-1 regulation of cartilage and chondrocyte metabolism.
O'Byrne EM; Schroder HC; Stefano C; Goldberg RL
Research Department Pharmaceuticals Division, CIBA-GEIGY Corporation Ardsley, NY 10502.
Agents Actions (SWITZERLAND) Aug 1987, 21 (3-4) p341-4, ISSN 0065-4299 Journal Code: 2XZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Catabolin/interleukin-1 effects on metabolism were studied in bovine nasal cartilage organ culture and articular chondrocyte cell culture. Keratan sulfate (KS) and hyaluronic acid (HA) were determined by an ELISA; prostaglandin E2 by RIA, sulfated glycosaminoglycan using dimethylmethylene blue and proliferation by incorporation of tritiated thymidine. Gel filtration of untreated 4-day organ culture media indicated that large sulfated and KS-containing proteoglycans were released and eluted in the void volume. Catabolin/interleukin-1 increased release of sulfated glycosaminoglycans and these were of lower molecular weight with an altered distribution of KS. Catabolin/interleukin-1 treatment of chondrocytes caused a decrease in KS production and proliferation but an increase in HA and in prostaglanding E2 production. Alterations of the chondrocyte metabolism by catabolin/interleukin-1 causing proteoglycan matrix degradation and modulation of chondrocyte glycosaminoglycan biosynthesis and proliferation may play a role in cartilage erosion and failure to repair in arthritic diseases.

12/7/22
DIALOG(R)File 155:MEDLINE(R)

06356717 88001717
Glycosaminoglycan stimulation of calcium release from mouse calvariae. Specificity for hyaluronic acid and dermatan sulfate.
Cochran DL
Department of Periodontics, Medical College of Virginia Commonwealth University, Richmond.
Calcif Tissue Int (GERMANY, WEST) Aug 1987, 41 (2) p79-85, ISSN 0171-967X Journal Code: CGH
Contract/Grant No.: DE07681; SO7RR05724
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Heparin in combination with suboptimal concentrations of parathyroid hormone (PTH) has been shown to stimulate calcium release from bone organ cultures. The mechanism of action of heparin, however, is not known. One possible mechanism relates to the highly sulfated structure of heparin. We have compared heparin to other glycosaminoglycans to stimulate calcium release from mouse calvarial organ cultures in the presence and absence of suboptimal concentrations of parathyroid hormone. The exogenous addition of heparin to bone cultures demonstrated only slight effects on calcium release at 5.0, 10, and 100 micrograms/ml. The addition of hyaluronic acid to the calvarial cultures caused a significant release of calcium at 10 and 100 micrograms/ml compared to 5 micrograms/ml hyaluronic acid. Dermatan sulfate was equally as effective as hyaluronic acid at 100 micrograms/ml but not at 10 micrograms/ml. A comparison of heparin- and hyaluronic acid-stimulated release demonstrated a significantly greater amount of calcium release with hyaluronic acid 100 micrograms/ml. At 5.0 and 10 micrograms/ml, there was no difference between heparin and hyaluronic acid in the amount of calcium released into the culture medium. When heparin was added to the organ cultures with suboptimal concentrations of PTH, there was a significant enhancement of calcium release observed with 10 and 100 micrograms/ml heparin compared to heparin addition alone. When hyaluronic acid was added with suboptimal concentrations of PTH, no significant enhancement of calcium release was observed with 100 micrograms/ml hyaluronic acid. Dermatan sulfate, chondroitin sulfates A and C, and keratan sulfate, in combination with PTH, stimulated significant calcium release compared to the glycosaminoglycan added alone.(ABSTRACT TRUNCATED AT 250 WORDS)

12/7/23
DIALOG(R)File 155:MEDLINE(R)

06337468 87311468
Stimulation of collagenase production in human synovial fibroblast cultures by poly (I). poly (C).
Meyer FA; Yaron I; Yaron M
J Rheumatol (CANADA) Jun 1987, 14 (3) p429-34, ISSN 0315-162X Journal Code: JWX
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Poly (I). poly (C) was found to induce collagenase secretion in both "normal" and "rheumatoid" synovial fibroblast cultures. Induction was time dependent, was maximal at 20-50 micrograms/ml poly (I). poly (C) and was dependent on de novo synthesis. Induction was prevented by hydrocortisone (0.1 microgram/ml) but inhibition of prostaglandin E production by diclofenac (0.2 microgram/ml) or ibuprofen (0.1 microgram/ml) did not affect collagenase production. Collagenase induction was accompanied by stimulation of hyaluronic acid and prostaglandin E production. This in vitro system may represent a model for the study of pathological secretory activities in the inflamed joint.

12/7/24
DIALOG(R)File 155:MEDLINE(R)

06278961 87252961
Pathobiochemical significance of granulocyte elastase complexed with proteinase inhibitors: effect on glycosaminoglycan metabolism in cultured synovial cells.
Kleesiek K; van de Leur E; Reinards R; Greiling H
J Clin Chem Clin Biochem (GERMANY, WEST) Mar 1987, 25 (3) p151-60, ISSN 0340-076X Journal Code: I3U
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Interactions between elastase inhibitor complexes and synovial cells are of special interest, since, in chronic joint diseases, granulocytes release large amounts of elastase into the synovial fluid and connective tissue, where the proteinase is bound to alpha 1-proteinase inhibitor and alpha 2-macroglobulin. To study the effect of elastase-alpha 2-macroglobulin and elastase-alpha 1-proteinase inhibitor complexes on the glycosaminoglycan metabolism of cultured synovial cells, we determined the distribution of [3H]glucosamine-labelled hyaluronate, which represents the main synthesized glycosaminoglycan, and of 35SO4(2-)-labelled chondroitin sulphate into the intracellular, pericellular and extracellular compartments of the cell culture. Exposure of the synovial cells to elastase-alpha 2-macroglobulin complexes leads to an enhanced synthesis and secretion of hyaluronate, and chondroitin sulphate, and also induces a rise of the fibronectin concentration in the medium. Analogous but less pronounced effects are observed in the presence of elastase-alpha 1-proteinase inhibitor complexes. Native uncomplexed elastase, however, causes no significant changes in hyaluronate metabolism. An increase of prostaglandin E2 in the culture medium during incubation with elastase inhibitor complexes occurs in parallel to the stimulatory effect on glycosaminoglycan metabolism. Our results demonstrate that elastase, whose enzymic activity is inactivated by the formation of complexes with alpha 1-proteinase inhibitor or alpha 2-macroglobulin, nevertheless acts as an inflammatory mediator, which in vitro induces metabolic changes closely resembling the in vivo findings in inflammatory joint diseases.

12/7/25
DIALOG(R)File 155:MEDLINE(R)

06014466 86315466
The effects of synovial fluid macrophages and interleukin-1 on hyaluronic acid synthesis by normal synovial fibroblasts.
Pulkki K
Rheumatol Int (GERMANY, WEST) 1986, 6 (3) p121-5, ISSN 0172-8172 Journal Code: TDZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The effects of peripheral blood monocyte and rheumatoid synovial fluid macrophage conditioned media were studied on hyaluronic acid (HA) metabolism of normal synovial fibroblasts. Both media stimulated HA synthesis about two-fold compared to controls (1% fetal calf serum). The activated mononuclear phagocyte conditioned media did not contain HA-degrading activity in these experiments. The effects of various concentrations of interleukin-1 (IL-1) on HA synthesis and proliferation of synovial fibroblasts were studied. Even at very low concentrations (0.1 IU IL-1/ml) HA synthesis was stimulated. With increasing concentrations HA synthesis did not increase but proliferation was stimulated. Stimulated fibroblasts synthesized mainly high molecular weight HA. Thus with IL-1-activation, normal synovial fibroblasts could not produce increased amounts of abnormal HA with decreased molecular weight.

12/7/26
DIALOG(R)File 155:MEDLINE(R)

05715699 86016699
Effects of prostaglandin E2 and dental plaque on bone collagen and hyaluronic acid synthesis.
Larjava H; Multanen VM; Paunio K
Proc Finn Dent Soc (FINLAND) 1985, 81 (3) p163-70, ISSN 0355-4651 Journal Code: PT5
Languages: ENGLISH
Document type: JOURNAL ARTICLE

12/7/27
DIALOG(R)File 155:MEDLINE(R)

05544596 85160596
Lichen myxedematosus (scleromyxedema) serum stimulates hyaluronic acid and prostaglandin E production by human fibroblasts.
Yaron M; Yaron I; Yust I; Brenner S
J Rheumatol (CANADA) Feb 1985, 12 (1) p171-5, ISSN 0315-162X Journal Code: JWX
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Serum from a 45-year-old patient with scleromyxedema (withdrawn prior to therapy) was added to synovial and foreskin human fibroblast cultures and its effect compared to that of normal human serum. The patient's serum stimulated production of both hyaluronic acid and prostaglandin E by fibroblast cultures. This stimulation was inhibited by hydrocortisone and indomethacin and was not accompanied by stimulation of cell proliferation.

12/7/28
DIALOG(R)File 155:MEDLINE(R)

05409811 85025811
Interferon triggers experimental synovitis and may potentiate auto-immune disease in humans.
Rosenbach TO; Moshonov S; Zor U; Yaron M
Clin Rheumatol (BELGIUM) Sep 1984, 3 (3) p361-4, ISSN 0770-3198 Journal Code: DI6
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW
From these data it appears that IFN is capable of stimulating prostaglandin E and hyaluronic acid production by human synovial fibroblasts in vitro and of initiating an inflammatory reaction in animal joints. In chronic arthritis its production may result from persisting viral or other antigenic stimulation. IFN may enhance the immune response and mediate the inflammatory process in the joint. Its role in the pathogenesis of rheumatic and various other autoimmune diseases is undergoing further study. (32 Refs.)

12/7/29
DIALOG(R)File 155:MEDLINE(R)

05393556 85009556
Inhibition of prostaglandin E synthesis by steroidal and nonsteroidal antiinflammatory drugs in human synovial fibroblast cultures. Yaron M; Yaron I; Mashiah V
J Rheumatol (CANADA) Aug 1984, 11 (4) p488-92, ISSN 0315-162X Journal Code: JWX
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Human synovial fibroblasts were "activated" by poly (I) X poly (C) to overproduce prostaglandin E (PGE). Hydrocortisone, diclofenac, indomethacin and ibuprofen inhibited PGE production in a dose dependent manner. Diclofenac (0.2 microgram/ml) had an effect similar to that of 1 microgram/ml of indomethacin and a stronger one than that of 0.5 microgram/ml hydrocortisone and 0.2 microgram/ml ibuprofen. Addition of hydrocortisone with either indomethacin or diclofenac had a synergistic inhibitory effect on PGE production. We suggest that this is an additional model for the study of PGE effect of antirheumatic drugs.

12/7/30
DIALOG(R)File 155:MEDLINE(R)

05374230 84298230
Interleukin 1 enhances synovial cell hyaluronate synthesis. Hamerman D; Wood DD

Proc Soc Exp Biol Med (UNITED STATES) Oct 1984, 177 (1) p205-10, ISSN 0037-9727 Journal Code: PXZ
Contract/Grant No.: 3949
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Interleukin 1 enhances proliferation of murine thymocytes in the presence of lectins, and is also known to stimulate the release of prostaglandins and neutral proteases from a variety of cell types. We have previously shown that a factor isolated from the culture media of disaggregated lining cells of the human synovial membrane was indistinguishable from monocyte-derived interleukin 1. We report here that interleukin 1 from either source stimulates hyaluronate synthesis by synovial membrane cells. Upon gel filtration or isoelectric focusing of synovial cell supernatants, the hyaluronate-stimulatory activity co-fractionates with the interleukin 1 activity. Enhanced cell secretion of hyaluronate is a newly described metabolic effect of interleukin 1.

12/7/31
DIALOG(R)File 155:MEDLINE(R)
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05274105 84198105
[Information value of synovial fluid study in rheumatic diseases] Informativna stoinost na izsledvaneto na sinovialna technost pri revmatichni zaboliavaniia.
Paskaleva-Peicheva V
Vutr Boles (BULGARIA) 1983, 22 (4) p6-10, ISSN 0506-2772 Journal Code: XMH
Languages: BULGARIAN
Document type: JOURNAL ARTICLE; REVIEW
(31 Refs.)

12/7/32
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

05238086 84162086
Paracrine interactions in bone-secreted products of osteoblasts permit osteoclasts to respond to parathyroid hormone.
Wong GL
J Biol Chem (UNITED STATES) Apr 10 1984, 259 (7) p4019-22, ISSN 0021-9258 Journal Code: HIV
Contract/Grant No.: AM33098
Languages: ENGLISH
Document type: JOURNAL ARTICLE
During bone remodeling, activation of resorption is followed by a cycle of formation and this ordered sequence of events has long suggested that local interactions between osteoclasts and osteoblasts are an important regulatory mechanism in bone metabolism. To study this phenomenon, we have prepared bone cells containing primarily osteoclasts by brief digestion of mice calvariae in collagenase, overnight attachment to polystyrene tissue culture flasks in serumless medium supplemented with OB (osteoblast) cell conditioned medium and subsequent growth in low serum. These OC (osteoclast) cells were found to be highly enriched in acid phosphatase activity and expressed cAMP responses to PTH (parathyroid hormone) and prostaglandin E2 but exhibited no PTH-stimulated hyaluronate synthesis in contrast to prostaglandin E2. PTH effects on hyaluronate, however, could be restored upon coculture of OC cells with OB cells (noncontact) or with OB cell conditioned medium, thereby suggesting that OB cells regulate OC cell PTH responsiveness and/or differentiation by soluble cell products secreted into the medium.

12/7/33
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

05151782 84075782
[Biochemical studies of potentially antiarthritic drugs] Biochemische Untersuchungen uber mogliche antiarthrotisch-wirksame Medikamente.
Greiling H
Z Rheumatol (GERMANY, WEST) Jul-Aug 1983, 42 (4) p153-8, ISSN 0301-6382 Journal Code: Y0V
Languages: GERMAN
Document type: JOURNAL ARTICLE; REVIEW
(25 Refs.)

12/7/34
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1995 Knight-Ridder Info. All rts. reserv.

05135229 84059229
Increased postpartum collagenolytic activity in cervical connective tissue from women treated with prostaglandin E2.
Ekman G; Uldbjerg N; Malmstrom A; Ulmsten U
Gynecol Obstet Invest (SWITZERLAND) 1983, 16 (5) p292-8, ISSN 0368-7346 Journal Code: FYA
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Cervical biopsies obtained from 7 patients immediately following parturition induced by intracervical application of 0.5 mg prostaglandin E2 (PGE2) in viscous gel were compared with similar biopsies from 11 spontaneously delivered women. A DNP-peptide hydrolytic activity (collagenase) was significantly increased in cervical tissue from the PGE2-induced patients compared with controls. In patients with prompt clinical response, the increase was nearly twofold. No differences were found in the concentrations of water, sulfated glycosaminoglycans, hyaluronic acid, hydroxyproline or leukocyte elastase. Thus, PGE2-induced cervical priming seems to be associated with an increased collagenolytic activity.

12/7/35
DIALOG(R)File 155:MEDLINE(R)
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05093634 84017634
The neutrophil in rheumatoid arthritis: its role and the inhibition of its activation by nonsteroidal antiinflammatory drugs.
Abramson S; Edelson H; Kaplan H; Given W; Weissmann G

Semin Arthritis Rheum (UNITED STATES) Aug 1983, 13 (1 Suppl 1) p148-53 , ISSN 0049-0172 Journal Code: UMV
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The activation of the polymorphonuclear leukocyte (PMN) in rheumatoid arthritis produces toxic products that include lysosomal enzymes, stable prostaglandins, and leukotrienes and causes the release of superoxide anion. These products produce the inflammatory response, damage cell membranes, and degrade hyaluronic acid. The inhibition of prostaglandin synthetase by NSAIDs does not, by itself, account for their effectiveness in preventing inflammation in rheumatoid arthritis. In vivo and in vitro experiments were conducted to determine if NSAIDs also exert an effect on neutrophil activation. The NSAIDs tested inhibited discrete PMN functions dependent upon the stimulus tested. The antiinflammatory effects of NSAIDs cannot be entirely explained by their inhibition of prostaglandin synthetase and may, in part, be due to other direct effects upon inflammatory cell activation.

12/7/36
DIALOG(R)File 155:MEDLINE(R)

04955884 83188884
Intraarticular hyaluronic acid injection and synovial prostaglandins in experimental immune synovitis.
Rosner IA; Boja BA; Malemud CJ; Moskowitz RW; Goldberg VM J Rheumatol (CANADA) Feb 1983, 10 (1) p71-8, ISSN 0315-162X Journal Code: JWX
Contract/Grant No.: AM-00773; AM-30134
Languages: ENGLISH
Document type: JOURNAL ARTICLE
In vitro studies suggest that synovial fluid hyaluronic acid may have a role in reducing joint inflammation. The effect of intraarticular injection of sodium hyaluronate in a model of experimental immune synovitis was assessed. In addition, tissue prostaglandin content of synovia with and without immune synovitis was compared. Intraarticular hyaluronic acid administered at 2 doses was not effective in reducing the induced inflammation. With immune synovitis there was an increase in the total synovial prostaglandins. When related to total prostaglandins, prostacyclin was decreased, prostaglandin F2 alpha and thromboxane were increased and prostaglandin E2 was the same in synovitis as compared to controls.

12/7/37
DIALOG(R)File 155:MEDLINE(R)

04911414 83144414
Relationship between the aer, extracellular matrix, and cyclic AMP in limb development.
Kosher RA
Prog Clin Biol Res (UNITED STATES) 1983, 110 Pt A p279-88, ISSN 0361-7742 Journal Code: PZ5
Languages: ENGLISH
Document type: JOURNAL ARTICLE

12/7/38
DIALOG(R)File 155:MEDLINE(R)

04570241 82113241
RNA and DNA viral stimulation of prostaglandin E production by human synovial fibroblasts.
Yaron M; Yaron I; Caspi D; Smetana O; Eylan E; Zor U
Arthritis Rheum (UNITED STATES) Dec 1981, 24 (12) p1582-6, ISSN 0004-3591 Journal Code: 90M
Languages: ENGLISH
Document type: JOURNAL ARTICLE

12/7/39
DIALOG(R)File 155:MEDLINE(R)

04526316 82069316
Regulation by sulfated glycosaminoglycans of the expansion of cumuli oophori isolated from mice.
Eppig JJ
Biol Reprod (UNITED STATES) Oct 1981, 25 (3) p599-608, ISSN 0006-3363 Journal Code: A3W
Languages: ENGLISH
Document type: JOURNAL ARTICLE

12/7/40
DIALOG(R)File 155:MEDLINE(R)

04481384 82024384
Prostaglandin E2 stimulates cumulus expansion and hyaluronic acid synthesis by cumuli oophori isolated from mice.
Eppig JJ
Biol Reprod (UNITED STATES) Aug 1981, 25 (1) p191-5, ISSN 0006-3363 Journal Code: A3W
Languages: ENGLISH
Document type: JOURNAL ARTICLE

12/7/41
DIALOG(R)File 155:MEDLINE(R)

04332189 81160189
Stimulation of prostaglandin E and hyaluronic acid production by rubella and measles viruses in human synovial fibroblast cultures [letter] Yaron M; Yaron I; Smetana O;

Caspi D; Zor U
Arthritis Rheum (UNITED STATES) Mar 1981, 24 (3) p573, ISSN 0004-3591 Journal Code: 90M
Languages: ENGLISH
Document type: LETTER

12/7/42
DIALOG(R)File 155:MEDLINE(R)
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04332173 81160173
Connective tissue activation. XX. Stimulation of prostaglandin secretion by mediators from lymphocytes (CTAP-I) and platelets (CTAP-III). Castor CW; Pek S
Arthritis Rheum (UNITED STATES) Mar 1981, 24 (3) p504-9, ISSN 0004-3591 Journal Code: 90M
Contract/Grant No.: AM-10728; AM-21192; AM-02244; +
Languages: ENGLISH
Document type: JOURNAL ARTICLE

12/7/43
DIALOG(R)File 155:MEDLINE(R)
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04154330 80265330
Stimulation of prostaglandin E production by bacterial endotoxins in cultured human synovial fibroblasts.
Yaron M; Yaron I; Smetana O; Eylan E; Zor U
Arthritis Rheum (UNITED STATES) Aug 1980, 23 (8) p921-5, ISSN 0004-3591 Journal Code: 90M
Languages: ENGLISH
Document type: JOURNAL ARTICLE
E coli, shigella, salmonella, and cholera endotoxins stimulated prostaglandin E (PGE) production by cultured human synovial and foreskin fibroblasts. The minimal effective dose of Shigella endotoxin was 2 micrograms/ml and a maximal response was observed at 10 micrograms/ml. PGE stimulation was first detected 7 hours after addition of cholera endotoxin. Stimulation by shigella endotoxin of both PGE and hyaluronic acid production was inhibited by indomethacin and aspirin. The present results suggest that PGE is a mediator of joint inflammation induced by endotoxins.

12/7/44
DIALOG(R)File 155:MEDLINE(R)
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04139623 80250623
Connective tissue activation. XVIII. Stimulation of hyaluronic acid synthetase activity.
Sisson JC; Castor CW; Klavons JA
J Lab Clin Med (UNITED STATES) Aug 1980, 96 (2) p189-97, ISSN 0022-2143 Journal Code: IVR
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Human synovial fibroblasts synthesize hyaluronic acid, a process that can be stimulated by a number of agents. Several steps in the synthetic pathway could be the locus at which these stimulators act; the final step, promoted by hyaluronic acid synthetase, was selectd for study. Hyaluronic acid synthetase is an enzyme system that transfers monosaccharide units to nascent hyaluronic acid chains. Activities of the enzyme were determined in lysates of cultured synovial fibroblasts by measuring incorporation of 14C-UDP-glucuronic acid into hyaluronic acid. Rates of hyaluronic acid synthesis were increased by adding CTAP-I or CTAP-III, DbcAMP, or prostaglandin E2 to the cultures. In each instance, hyaluronic acid synthetase activity was enhanced in a manner comparable to that seen in hyaluronic acid synthesis. The changes in enzyme and product were observed as early as 6 hr after cultures were exposed to CTAP-III, and both indices declined when this stimulator was withdrawn for 24 hr. Although DbcAMP incrased the hyaluronic acid synthetase activity of intact fibroblasts, it had no effect on the enzyme in lysates of cells. In the cultured cells, cycloheximide reduced basal levels of synthetase activity and hyaluronic acid synthesis of hyaluronic acid may do so by inducing hyaluronic acid synthetase.

12/7/45
DIALOG(R)File 155:MEDLINE(R)
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03891418 80002418
Metabolic properties of hormonally responsive osteogenic sarcoma cells. Martin TJ; Ingleton PM; Coulton LA; Melick RA
Clin Orthop (UNITED STATES) May 1979, (140) p247-54, ISSN 0009-921X Journal Code: DFY
Languages: ENGLISH
Document type: JOURNAL ARTICLE
There is sufficient impetus from the clinical nature of osteogenic sarcoma to stimulate basic studies of the effects of hormones on tumor growth and differentiation. This can probably best be done first by the use of in vitro studies to determine precisely the effects of certain hormones on tumor cell growth and biochemical function. Such investigations would hopefully indicate the direction of in vivo work. The differentiated transplantable tumor described in this paper is clearly hormone-responsive, and offers a means of investigating the effects of other hormones, including growth hormone, androgens, estrogens and glucocorticoids, on specialized function of the osteogenic sarcoma cells, and on the growth of the tumor.

12/7/46
DIALOG(R)File 155:MEDLINE(R)
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03726424 79103424
Interrelationship between stimulation of prostaglandin E and hyaluronate production by poly (I) . poly (C) and interferon in synovial fibroblast culture.
Yaron M; Yaron I; Wiletzki C; Zor U
Arthritis Rheum (UNITED STATES) Jul-Aug 1978, 21 (6) p694-8, ISSN 0004-3591 Journal Code: 90M
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The interferon-inducer, polyinosinate . polycyctidylate [Poly (I) . Poly (C)] stimulated both prostaglandin E (PGE) and hyaluronic acid (HA) production by human

cultured synovial fibroblasts. Increased accumulation of PGE in the medium was noted within 3 hours of culture, while accumulation of HA was observed only after a 24 hour lag period. The stimulation of PGE and HA production by Poly (I) . Poly (C) was prevented by aspirin and indomethacin. Human interferon was also effective in stimulating both PGE and HA production. Concomitant addition of cortisol to culture medium abrogated the stimulatory effect of Poly (I) . Poly (C) and interferon on both PGE and HA production. Exogenous PGE2, however, overcame the inhibitory effect of cortisol on HA production. The present results suggest that the stimulatory effect of both interferon and Poly (I) . Poly (C) on HA production may be mediated by PGE. Prostaglandins may thus play a role in the inflammatory process associated with viral infections.

12/7/47
DIALOG(R)File 155:MEDLINE(R)

03439981 78073981
Stimulatory effect of prostaglandins on the production of hexosamine-containing substances by cultured fibroblasts (3) induction of hyaluronic acid synthetase by prostaglandin F2alpha.
Murota S; Abe M; Otsuka K
Prostaglandins (UNITED STATES) Nov 1977, 14 (5) p983-91, ISSN 0090-6980 Journal Code: Q76
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The mechanism of the stimulatory effect of prostaglandin(PG)F2alpha on the production of hexosamine-containing substances by cultured fibroblasts was studied. Treatment of the cells with 1 microgram/ml of PGF2alpha resulted in a doubled net synthesis of acidic glycosaminoglycans during 20 hrs measured with uronic acid as index, and also resulted in 300 per cent increase of 3H-glucosamine incorporation into hexosamine-containing substances during the first 6 hrs. Fractionation of the PGF2alpha-stimulated hexosamine-containing substances with double isotope technique revealed that hyaluronic acid was the most stimulated component. Prior to the increase of hyaluronic acid, hyaluronic acid synthetase activity was found to be augmented by PGF2alpha as high as 4 times over the control. The augmentation of hyaluronic acid synthetase activity by PGF2alpha did not take place if actinomycin D was simultaneously present in the culture medium, suggesting that PGF2alpha induced the enzyme.

12/7/48
DIALOG(R)File 155:MEDLINE(R)

03299442 77201442
Effects of adenosine 3':5'-cyclic monophosphate and serum on synthesis of hyaluronic acid in confluent rat fibroblasts.
Tomida M; Koyama H; Ono T
Biochem J (ENGLAND) Mar 15 1977, 162 (3) p539-43, ISSN 0006-2936 Journal Code: 9YO
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A small amount of hyaluronic acid is synthesized in confluent cultures of rat fibroblasts, which have a high content of cyclic AMP. Addition of calf serum caused a rapid decrease in the cellular cyclic AMP content and large increases in hyaluronic acid synthetase activity and hyaluronic acid production. Addition of cyclic AMP also caused a marked increase in hyaluronic acid synthetase activity within 2h and then increased hyaluronic acid production. The effects of cyclic AMP and serum on hyaluronic acid synthesis were additive. Prostaglandin E2, which increased the cyclic AMP by stimulating adenylate cyclase, was as effective as cyclic AMP in increasing hyaluronic acid synthetase activity, but AMP was far less effective than cyclic AMP. These results indicate that cyclic AMP itself stimulates the mucopolysaccharide synthesis and that the effect of serum is not due to a decrease in cyclic AMP in the cells.

12/7/49
DIALOG(R)File 155:MEDLINE(R)

02708725 75115725
Connective tissue activation. VII. Evidence supporting a role for prostaglandins and cyclic nucleotides.
Castor CW
J Lab Clin Med (UNITED STATES) Mar 1975, 85 (3) p392-404, ISSN 0022-2143 Journal Code: IVR
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Prostaglandins added to synovial cultures stimulated hyaluronic acid (HA) synthesis and glycolysis. The order of potency of the prostaglandins was: PGE1 greater than PGE2 greater than PGF2alpha greater than PGF1alpha, PGE1 and PGE2, 1.0 mug per milliliter, stimulated synovial cells, whereas F-series prostaglandins required 5 mug per milliliter for stimulation. Connective tissue-activating peptide (CTAP) activation of synovial cells was markedly potentiated by all four prostaglandins, and by PGE1 in concentrations as low as 0.01 mug per milliliter. Exogenous prostaglandins caused a prompt and marked increment in synovial cell cyclic-AMP, while CTAP caused a delayed peak of cyclic-AMP of lesser magnitude. Treatment of synovial cultures with cortisol (1.0 mug per milliliter), cycloheximide (10 mug per milliliter), or indomethacin (15.0 mug per milliliter) failed to block stimulation by PGE1, 7-OXA-13-Prostynoic acid, a prostaglandin antagonist, substantially inhibited the action of PGE1 and suppressed the effect of CTAP on synovial cells. It is possible that both exogenous and endogenous (synovial prostaglandins are involved in the connective tissue activation sequence.
? t 10/7/all

10/7/1
DIALOG(R)File 155:MEDLINE(R)

08999793 94314793
Binding and degradation of hyaluronan by human breast cancer cell lines expressing different forms of CD44: correlation with invasive potential. Culty M; Shizari M; Thompson EW; Underhill CB
Department of Cell Biology, Georgetown University Medical Center, Washington, D.C. 20007.
J Cell Physiol (UNITED STATES) Aug 1994, 160 (2) p275-86, ISSN 0021-9541 Journal Code: HNB
Contract/Grant No.: CA35592, CA, NCI
Languages: ENGLISH
Document type: JOURNAL ARTICLE
In the present study, we examined a panel of human breast cancer cell lines with regard to their expression of CD44 and ability to bind and degrade hyaluronan. The cell lines expressed varying amounts of different molecular weight forms of CD44 (85-200 kDa) and, in general, those that expressed the greatest amounts of CD44 were the most invasive as judged by in vitro assays. In addition, the ability to bind and degrade hyaluronan was restricted to the cell lines expressing high levels of CD44, and both these functions were blocked by an antibody to CD44 (Hermes-1). Moreover, the rate of [3H]hyaluronan degradation was highly correlated with the amount of

CD44 ($r = 0.951$, $P < 0.0001$), as well as with the invasive potential of the cells. Scatchard analysis of the [3H]hyaluronan binding of these cells revealed the existence of significant differences in both their binding capacity and their dissociation constant. To determine the source of this deviation, the different molecular weight forms of CD44 were partially separated by gel filtration chromatography. In all cell lines, the 85 kDa form was able to bind hyaluronan, although with different affinities. In contrast, not all of the high molecular weight forms of CD44 had this ability. These results illustrate the diversity of CD44 molecules in invasive tumor cells, and suggest that one of their major functions is to degrade hyaluronan.

10/7/2
DIALOG(R)File 155:MEDLINE(R)

08878671 94193671
Hepatocyte growth factor specifically binds to sulfoglycolipids. Kobayashi T; Honke K; Miyazaki T; Matsumoto K; Nakamura T; Ishizuka I; Makita A
Biochemistry Laboratory, Hokkaido University School of Medicine, Sapporo, Japan.
J Biol Chem (UNITED STATES) Apr 1 1994, 269 (13) p9817-21, ISSN 0021-9258 Journal Code: HIV
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Hepatocyte growth factor (HGF) is a heparin-binding pleiotropic factor that acts on a variety of epithelial cells. The interaction of human HGF with glycolipids was studied by overlaying them with 125I-HGF on thin layer chromatograms and by a solid-phase assay using lipids adsorbed on microtiter plates. Among various glycolipids tested, HGF was found to bind to sulfoglycolipids, including galactosylceramide sulfate (SM4), lactosylceramide sulfate (SM3), and gangliotriaosylceramide bis-sulfate. In contrast, HGF failed to bind to gangliosides or neutral glycolipids. HGF binding to SM4 was strongly inhibited by dextran sulfate, heparin, and fucoidan, whereas neither keratan sulfate nor hyaluronic acid had any inhibitory activity. When glycolipids from a renal cancer cell line, SMKT-R3, which overexpresses sulfoglycolipids, were developed on a thin layer chromatogram, SM4 and SM3 were the only glycolipids that bound HGF. We further examined the effect of the incorporation of glycolipids into SMKT-R3 cells on HGF binding to the cells. The incorporation of SM4 into the cells enhanced HGF binding to SMKT-R3 cells, while that of galactosylceramide, a precursor of SM4, had no effect. These observations indicated that SM4 exogenously incorporated into the cell membranes could react with HGF and suggested that endogenous sulfoglycolipids on SMKT-R3 cells might function as reservoirs for HGF.

10/7/3
DIALOG(R)File 155:MEDLINE(R)

08864324 94179324
Ligand binding specificity of alternatively spliced CD44 isoforms. Recognition and binding of hyaluronan by CD44R1.
Dougherty GJ; Cooper DL; Memory JF; Chiu RK
Terry Fox Laboratory for Hematology/Oncology, British Columbia Cancer Agency, Vancouver, Canada.
J Biol Chem (UNITED STATES) Mar 25 1994, 269 (12) p9074-8, ISSN 0021-9258 Journal Code: HIV
Languages: ENGLISH
Document type: JOURNAL ARTICLE
CD44 species of widely differing molecular mass have been identified on various normal and/or transformed cells. Recent studies have demonstrated that much of this heterogeneity is produced as a result of the alternative splicing of a series of 10 exons present within the CD44 gene generating a large number of CD44 isoforms containing additional peptide sequences of varying length inserted into a single site within the extracellular domain of the molecule. At present, the effect of such insertions on the ligand binding specificity of CD44 remains unclear. CD44H, the major CD44 isoform expressed by most resting cell types, has been shown to function as a receptor for the glycosaminoglycan hyaluronan. In contrast, CD44E, the major isoform expressed by the colon carcinoma cell line HT29, which contains a 132-amino acid insert, is unable to recognize and bind this ligand. In the present study we demonstrate that CD44R1, an isoform isolated from the myelomonocytic cell line KG1a, that differs from CD44E by just 3 amino acid substitutions, is fully capable of mediating the attachment of transfected COS7 cells to hyaluronan-coated plastic. In order to confirm that such binding was directly mediated by the introduced CD44 species, chimeric proteins containing the entire extracellular domain of CD44H or CD44R1 fused in-frame to human bone/liver/kidney alkaline phosphatase were prepared and tested for their ability to bind hyaluronan-coated plastic. Both fusion proteins bound equally well to hyaluronan and in each case their attachment could be readily inhibited by monoclonal antibodies directed against the hyaluronan-binding domain of CD44. These data indicate that the 132-amino acid insert present within the extracellular domain of CD44R1 does not interfere with the hyaluronan binding function of the molecule. Since CD44E contains an identically sized insert but is unable to bind hyaluronan, it is likely that mutation of one or more of the 3 amino acid residues that differ between CD44E and CD44R1 is responsible for the altered functional activity of this particular molecule.

10/7/4
DIALOG(R)File 155:MEDLINE(R)

08787717 94102717
Localization of hyaluronan in normal breast tissue, radial scar, and tubular breast carcinoma.
de la Torre M; Wells AF; Bergh J; Lindgren A
Department of Pathology, University Hospital of Uppsala, Sweden. Hum Pathol (UNITED STATES) Dec 1993, 24 (12) p1294-7, ISSN 0046-8177 Journal Code: GEC
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Hyaluronan (hyaluronic acid [HYA]) is one of the extracellular matrix components involved in normal cell physiology and is localized mainly in bodily fluids and connective tissues. Increased amounts of HYA in serum have been demonstrated in a number of neoplastic and inflammatory conditions, among them breast cancer. Tubular breast carcinoma (TC) and radial scar (RS) are two breast lesions that microscopically display characteristic stromal alterations and possess gross and microscopic similarities. Due to the importance of HYA as a component of the extracellular matrix, we investigated its presence in these lesions and in normal breast tissue. Using a biotinylated HYA-binding region for the in situ detection of HYA, we noted an increased amount of HYA in both TC and RS as compared with that in normal breast tissue specimens. A strong reactivity was observed predominantly around glandular structures and in the interlobular stroma of both TC and RS. Perivascular HYA staining also was distinctly observed in these lesions (TC and RS). Some HYA was observed in the connective tissue of the intralobular regions, around small blood vessels, and in the perivascular connective tissue of the normal breast. The distribution of HYA adjacent to the epithelium in the normal breast suggests a role for HYA in the interaction between epithelium and stroma of the normal breast. Its increase in the connective tissue of both TC and RS reflects the derangement of the stroma commonly observed in these conditions and supports the notion that these lesions may be associated.

10/7/5
DIALOG(R)File 155:MEDLINE(R)

08383791 93093791
Prognostic relevance of serum hyaluronan levels in patients with breast cancer.

Ponting J; Howell A; Pye D; Kumar S
Department of Clinical Research, Christie Hospital, Manchester, UK. Int J Cancer (UNITED STATES) Dec 2 1992, 52 (6) p873-6, ISSN 0020-7136 Journal Code: GQU
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The serum hyaluronan (HA) level of 238 women with breast cancer was measured by means of a specific radiometric assay. The results show no significant increase in serum HA when compared to levels in 120 control sera. A number of prognostic factors were evaluated including stage of disease, lymph-node involvement, tumour size, histology and presence of oestrogen and progesterone receptors in the tumour. No correlation was found with serum HA concentration and we conclude that serum HA level is of no prognostic significance in breast cancer.

10/7/6
DIALOG(R)File 155:MEDLINE(R)

08225614 92363614
Hyaluronan (hyaluronic acid) and hyaluronectin in the extracellular matrix of human breast carcinomas: comparison between invasive and non-invasive areas.
Bertrand P; Girard N; Delpech B; Duval C; d'Anjou J; Dauce JP Centre Regional de Lutte Contre le Cancer Henri-Becquerel, Rouen, France. Int J Cancer (UNITED STATES) Aug 19 1992, 52 (1) p1-6, ISSN 0020-7136 Journal Code: GQU
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We performed quantitative determination of the distribution of hyaluronan (hyaluronic acid, HA) and the HA-binding protein, hyaluronectin (HN), 2 components of the extracellular matrix of tumor desmoplasia, within 71 human breast carcinomas. Results showed that HA and HN were more elevated in tumoral than in non-tumoral adjacent tissue, and that the peripheral invasive area of tumors contained increased levels of HA and HN as compared with the central non-invasive area (p less than 10(-3) and p less than 10(-5) respectively). HN and HA levels of 61 ductal carcinomas were related to the histological grade of tumors; no significant difference was found between grades for HA; HN was found to be significantly lower in grade III than in grade II tumors (p less than 0.01). HA and HN rates were correlated in grade I and grade II tumors and were not correlated in grade III. Mean percentage of HA saturation level by HN for whole tumors was found to be less than 4%, indicating that HA is essentially free of proteins and could be used as a target for cancer diagnosis or therapy.

10/7/7
DIALOG(R)File 155:MEDLINE(R)

08224842 92362842
Radiation-induced increase in hyaluronan and fibronectin in bronchoalveolar lavage fluid from breast cancer patients is suppressed by smoking.
Bjermer L; Hallgren R; Nilsson K; Franzen L; Sandstrom T; Sarnstrand B; Henriksson R
Dept of Lung Medicine, University Hospital, Ume.ANG.a, Sweden. Eur Respir J (DENMARK) Jul 1992, 5 (7) p785-90, ISSN 0903-1936 Journal Code: ERY
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Bronchoalveolar lavage (BAL) fluid was analysed from 21 patients with breast cancer, stage T1N0M0, who had undergone tumour resection and post-operative local irradiation (accumulated dose 56 Gy). The lavage was performed two months after radiotherapy, in the anterior part of the lingula (left side) or of the right middle lobe (right side), depending on which side had been exposed to radiation. The patients had significantly increased concentrations of fibronectin (FN) (p less than 0.001), hyaluronan (HA) (p less than 0.01) and albumin (p less than 0.05) in BAL fluid compared with the healthy controls (n = 19). However, when the patients were separated, according to smoking history, it was obvious that the inflammatory reaction occurred entirely in the nonsmoking patient group (n = 10), whilst no difference could be found between the smoking patients (n = 11) and the controls. In the nonsmoking patient group, there was a sevenfold increase in BAL concentrations of FN and a threefold increase in HA. Moreover, four patients had detectable levels of procollagen III peptide in BAL, all were nonsmokers. The smoking habits of the controls had no influence on the BAL measurements. These findings indicate that smoking interferes with the radiation-induced early inflammatory connective tissue reaction of the lung. Finally, the results justify further investigation of interaction of smoking with cancer treatment, both from the view of therapy effectiveness and reduction of adverse effects.

10/7/8
DIALOG(R)File 155:MEDLINE(R)

07885319 92023319
Alterations of glycosaminoglycans in human liver and kidney tumors. Lapis K; Kavalsky I; Jeney A; Pogany G; Molnar G; Repassy D; Szecseny A; Karacsonyi S
I. Institute of Pathology and Experimental Cancer Research, Semmelweis Medical University, Budapest, Hungary.
Tokai J Exp Clin Med (JAPAN) May 1990, 15 (2-3) p155-65, ISSN 0385-0005 Journal Code: VZM
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Glycosaminoglycans were investigated in surgically removed human liver and kidney tumours by applying biochemical methods. Four liver adenoma, 6 focal nodular hyperplasia and 9 primary hepatocellular carcinoma samples were compared with normal liver from autopsy cases and also with liver tissue adjacent to PHC. The studies on kidney included 14 renal cell carcinoma and 4 wilms' tumour samples. Three findings emerged from the quantitative and qualitative characterization of the tumours with epithelial origin. 1) The rise in the amount of total GAG was not limited to the malignant lesion. Similar increase was observed in benign liver tumours and also in the tissue adjacent to liver or kidney malignant tumours. 2) The dominant type of the GAG subclasses varies with the histology of the tumours. In benign liver tumours dermatan sulfate, in PHC and renal cell carcinoma chondroitin sulfate, but in Wilms' tumour hyaluronate was the prominent GAG subclass. 3) In all tumour-affected tissues dermatan and chondroitin sulfates had lower degree of sulfation. However, in the histologically different tumours various disaccharides showed reduced level of sulfation. The GAG alteration in renal cell carcinoma was compared with the prognostic factors of each individual case. This analysis showed a good correlation between HS/CS ratio and the prognostic factors of the kidney tumour cases.

10/7/9
DIALOG(R)File 155:MEDLINE(R)

07808924 91327924
Hyaluronan in basal cell carcinomas [letter]
Wells AF; Lundin A; Michaelsson G; Ponten F
Acta Derm Venereol (SWEDEN) 1991, 71 (3) p274-5, ISSN 0001-5555 Journal Code: 0MQ
Languages: ENGLISH

Document type: LETTER

10/7/10
DIALOG(R)File 155:MEDLINE(R)

07629192 91148192
[Glycosaminoglycans in human normal lung tissues and lung cancer tissues] Horai T
Center for Adult Disease, Osaka, Japan.
Nippon Kyobu Shikkan Gakkai Zasshi (JAPAN) Nov 1990, 28 (11) p1442-9, ISSN 0301-1542 Journal Code: KQD
Languages: JAPANESE Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
The quantitative changes of glycosaminoglycans in tumor tissue of human lung cancers (6 squamous cell carcinomas, 7 small cell carcinomas and 10 adenocarcinomas) were studied. Normal lung tissues contained of 3.38 mumol uronic acid/g dry weight glycosaminoglycans which consisted of hyaluronic acid, chondroitin sulfates, dermatan sulfate and heparan sulfate. The total amount of glycosaminoglycans in human lung cancer tissues increased 1.7 to 3.5 times in comparison with that in normal lung tissues. The increase in tissue content of glycosaminoglycans was accompanied by an increase in the chondroitin sulfate level in every histologic type of lung cancer, as well as marked increase in hyaluronic acid level in squamous cell carcinomas, and a moderate increase in small cell carcinomas. The concentrations of dermatan sulfate and heparan sulfate in lung cancer tissues did not show any significant changes compared with those in normal lung tissues. The increase in total amount and changes in the composition of glycosaminoglycans in human lung cancer tissue were closely related to the histologic type of the tumor. In adenocarcinomas, some acid glycoprotein with sialic acid was simultaneously detected during the separating course of glycosaminoglycans, which was considered to be derived from mucinous substances related to adenocarcinoma cells.

10/7/11
DIALOG(R)File 155:MEDLINE(R)

07461217 90368217
Serum hyaluronan (hyaluronic acid) in breast cancer patients. Delpech B; Chevallier B; Reinhardt N; Julien JP; Duval C; Maingonnat C; Bastit P; Asselain B
Centre Regional de Lutte Contre le Cancer Henri-Becquerel, Rouen, Paris, France.
Int J Cancer (UNITED STATES) Sep 15 1990, 46 (3) p388-90, ISSN 0020-7136 Journal Code: GQU
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Eighty-three women with breast cancer (57 with systemic metastasis, 26 without) were investigated for serum hyaluronan (HA) and compared to 50 patients with benign diseases of the breast. Hyaluronan was significantly increased in sera of metastatic patients compared to sera of non-metastatic patients (p less than 0.0001) and also in sera of non-metastatic patients when compared to control sera (p less than 0.01). The difference was not related to the number of metastatic sites involved. Three months after starting cytotoxic chemotherapy in metastatic patients, lower HA concentrations were observed in patients responding to chemotherapy. The initial level of serum HA had no predictive value concerning response to chemotherapy.

10/7/12
DIALOG(R)File 155:MEDLINE(R)

07428753 90335753
Similar epithelial-stromal interactions in the regulation of hyaluronate production during limb morphogenesis and tumor invasion.
Knudson CB; Knudson W
Department of Biochemistry, Rush-Presbyterian-St. Luke's Medical Center, Chicago, IL 60612-3864.
Cancer Lett (NETHERLANDS) Jul 16 1990, 52 (2) p113-22, ISSN 0304-3835 Journal Code: CMX
Contract/Grant No.: CA-42614, CA, NCI; AR39239, AR, NIAMS Languages: ENGLISH
Document type: JOURNAL ARTICLE
Changes in extracellular hyaluronate occur during the onset of cell migratory stages of development, wound healing, regeneration, and tumor invasion. During development, the production of hyaluronate, which is spatially and temporarily patterned, is regulated, in part, by epithelial-mesenchymal interactions, as demonstrated in the developing limb (Knudson, and Toole (1988) Biochem, Int., 17, 735). Analogous regulatory interactions occur during tumor invasion. One of us (Knudson, W. et al. (1984) Proc. Natl. Acad. Sci. USA, 81, 6767) has shown that several human carcinoma cells interact with normal human fibroblasts in co-culture to effect the stimulation of hyaluronate production. This type of interaction in vivo may account for the large accumulations of hyaluronate often associated with invasive tumors. Heterologous coculture experiments were performed to determine whether carcinoma cells and embryonic epithelial cells express a common regulatory mechanism to effect the stimulation of hyaluronate production by stromal cells. Human LX-1 lung carcinoma cells or human HCV-29T bladder carcinoma cells cultured together with chick embryo limb bud mesoderm synthesized 2- to 4-fold more hyaluronate than the sum of that produced by carcinoma and mesoderm cultures grown separately. Co-cultures of chick embryo limb bud epithelial cells with adult human skin fibroblasts also synthesized 1.5- to 2.5-fold more hyaluronate. The increase in hyaluronate in these co-cultures was not due to a stimulation of cell proliferation and was additive to the effect of fetal bovine serum. The results suggest a common mechanism of epithelial-stromal interaction in the regulation of hyaluronate production during embryonic development and tumor invasion.

10/7/13
DIALOG(R)File 155:MEDLINE(R)

07125062 90032062
The role and regulation of tumour-associated hyaluronan. Knudson W; Biswas C; Li XQ; Nemec RE; Toole BP
Department of Biochemistry, Rush-Presbyterian-St Luke's Medical Center, Chicago, IL 60612.
Ciba Found Symp (NETHERLANDS) 1989, 143 p150-9; discussion 159-69, 281-5, ISSN 0300-5208 Journal Code: D7X
Contract/Grant No.: CA42614
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL Significantly increased levels of the glycosaminoglycan hyaluronan are often associated with human and animal tumours. In the rabbit V2 carcinoma elevated levels of tumour-associated hyaluronan are also closely correlated with invasiveness. We have therefore initiated studies to better define the role and regulation of hyaluronan synthesis in tumour tissues. In cell culture many tumour cell types have reduced capacities to synthesize hyaluronan even when derived from tumours enriched in hyaluronan. We showed that several of these same cells can nevertheless stimulate hyaluronan synthesis by normal fibroblasts. In the LX-1 human lung carcinoma cell line this stimulatory potential resides in a membrane-bound, heat-sensitive, lipophilic, cell surface glycoprotein. These data suggest that production of tumour-associated hyaluronan occurs via tumour-stromal cell interactions. We recently demonstrated that

some human tumour cells also possess unoccupied, high affinity, cell surface binding sites for hyaluronan which may allow tumour cells to interact directly with hyaluronan-enriched extracellular matrices. This interaction may in turn allow tumour cells to use hyaluronan as a support for adhesion and locomotion. The spatial organization of hyaluronan could then function to guide tumour cells into surrounding stroma. We attempted to visualize this spatial deposition of hyaluronan in situ within frozen sections of human tumour tissue using a morphological probe that specifically recognizes hyaluronan. Hyaluronan appears most prominently in the partially degraded connective tissue. (27 Refs.)

10/7/14
DIALOG(R)File 155:MEDLINE(R)

07124554 90031554
Accumulation of hyaluronate in human lung carcinoma as measured by a new hyaluronate ELISA.
Li XQ; Thonar EJ; Knudson W
Department of Biochemistry, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois 60612.
Connect Tissue Res (ENGLAND) 1989, 19 (2-4) p243-53, ISSN 0300-8207 Journal Code: DQH
Contract/Grant No.: CA-42614; AG-04736; AR-39239
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We have developed a new ELISA to quantify hyaluronate. This ELISA takes advantage of an anti-keratan sulfate antibody to differentiate between the coated aggregating rat chondrosarcoma proteoglycan which captures the hyaluronate and the keratan sulfate-bearing aggregating proteoglycan added subsequently. Absorbance in this assay was shown to be linear to the logarithmic concentration of hyaluronate in the range of 15 to 1000 ng/ml. Pre-treatment of hyaluronate with papain or protease did not interfere with its quantification; in contrast, pre-treatment with 0.1N NaOH significantly interferes with the subsequent measurement of the hyaluronate molecules. The size of the hyaluronate molecule was found to be an important factor in quantification: only large size hyaluronate molecules could be quantified accurately. The ELISA was used to show that human lung carcinomas contain 2 to 500 times as much hyaluronate as normal lung tissue from the same patient.

10/7/15
DIALOG(R)File 155:MEDLINE(R)

07056966 89358966
Mechanism of action of the migration stimulating factor produced by fetal and cancer patient fibroblasts: effect on hyaluronic and synthesis. Schor SL; Schor AM; Grey AM; Chen J; Rushton G; Grant ME; Ellis I Department of Cell and Structural Biology, University of Manchester. In Vitro Cell Dev Biol (UNITED STATES) Aug 1989, 25 (8) p737-46, ISSN 0883-8364 Journal Code: HEQ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We have previously demonstrated that confluent fetal fibroblasts migrate into three-dimensional collagen gels to a significantly greater extent than their normal adult counterparts. Recent studies have revealed that this behavioral difference results from the secretion by fetal fibroblasts of a soluble migration-stimulating factor (MSF) which acts on these cells in an autocrine fashion. Adult fibroblasts do not produce MSF but remain responsive to it. Skin fibroblasts from cancer patients resemble fetal fibroblasts (rather than normal adult cells) with respect to their migratory behavior on collagen gels and continued production of MSF. This communication is concerned with elucidating the biochemical basis of MSF activity. Data are presented indicating that a) hyaluronic acid is required for the elevated migratory activity displayed by confluent fetal and breast cancer patient skin fibroblast; b) adult fibroblasts exhibit a bell-shaped dose-response to MSF, with maximal stimulation of migration observed at a concentration of 10 ng/ml; c) the migratory activity of adult fibroblasts pre-incubated with MSF remains high in the absence of additional factor: and d) MSF affects both the quantity and size class distribution of hyaluronic acid synthesized by adult fibroblasts. We have previously speculated that the persistent fetal-like fibroblasts of breast cancer patients play a direct role in disease pathogenesis by perturbing normal epithelial-mesenchymal interactions. The observations reported here suggest that MSF-induced alterations in hyaluronic acid synthesis may contribute to the molecular basis of such perturbations.

10/7/16
DIALOG(R)File 155:MEDLINE(R)

06973060 89275060
Hyaluronic acid-stimulating activity in sera from the bovine fetus and from breast cancer patients.
Decker M; Chiu ES; Dollbaum C; Moiin A; Hall J; Spendlove R; Longaker MT; Stern R
Department of Pathology, School of Medicine, University of California, San Francisco 94143.
Cancer Res (UNITED STATES) Jul 1 1989, 49 (13) p3499-505, ISSN 0008-5472 Journal Code: CNF
Contract/Grant No.: PO1-CA44768
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The sine qua non of malignancy is the ability of tumor cells to migrate and invade surrounding tissue. There are many substances that have been described that enhance cell motility and hyaluronic acid is prominent among these. Hyaluronic acid is a high molecular weight alternating disaccharide polymer found in abundance in extracellular matrices whenever rapid cell proliferation or tissue regeneration and repair occur. It creates a permissive environment for cell motility during embryogenesis, and high levels of hyaluronic acid also correlate with increased tumor cell invasion and aggressiveness. Little is known about the regulation of hyaluronic acid production, either in normal tissue or in malignancy. In this study, we characterize a hyaluronic acid-stimulating activity in fetal calf serum and describe a similar activity in the sera of breast cancer patients. The stimulating activity was measured by placing aliquots of test substance on fibrosarcoma cells. These indicator cells, which synthesize copious quantities of hyaluronic acid, respond to stimulation in a time- and dose-dependent fashion. The fetal calf serum hyaluronic acid-stimulating activity is maximum early in gestation and then falls rapidly to essentially no activity at term. This activity was partially purified from 120-day fetal calf serum by concanavalin A-Sepharose affinity and ion exchange chromatography and is accounted for by a glycoprotein with a molecular weight of 150,000 on gel filtration under native conditions. The sera of breast cancer patients with measurable burden of disease also contained hyaluronic acid-stimulating activity, which was not present in normal serum donors or in breast cancer patients without evidence of disease. The production of this stimulating activity may contribute to the development of the malignant phenotype by inducing hyaluronic acid-rich microenvironments that are permissive to tumor cell invasion and metastases.

10/7/17
DIALOG(R)File 155:MEDLINE(R)

06953681 89255681
Neoplastic modulation of extracellular matrix: stimulation of chondroitin sulfate proteoglycan and hyaluronic acid synthesis in co-cultures of human colon carcinoma and

smooth muscle cells.
Iozzo RV; Sampson PM; Schmitt GK
Department of Pathology, University of Pennsylvania School of Medicine, Philadelphia 19104.
J Cell Biochem (UNITED STATES) Apr 1989, 39 (4) p355-78, ISSN 0730-2312 Journal Code: HNF
Contract/Grant No.: CA-39481; AG-05707; HL-08805
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Previous studies have shown that human colon carcinomas contain elevated amounts of chondroitin sulfate proteoglycan (CS-PG) and hyaluronic acid, and that the major site of synthesis of these products is the host mesenchyme surrounding the tumor. These findings have led to the proposal that the abnormal formation of the tumor stroma is modulated by the neoplastic cells. The experiments of this paper were designed to explore further this complex phenomenon in an in vitro system using co-cultures of phenotypically stable human colon smooth muscle (SMC) and carcinoma cells (WiDr). The results showed a 3-5-fold stimulation of CS-PG and hyaluronic acid biosynthesis in the co-cultures as compared to the values predicted from the individual cell type cultured separately. The increase in CS-PG was not due to changes in specific activity of the precursor pool, but was rather due to a net increase in synthesis, inasmuch as it was associated with neither a stimulation of cell proliferation nor with an inhibition of intracellular breakdown. These biochemical changes were corroborated by ultrastructural studies which showed a marked deposition of proteoglycan granules in the co-cultures. Several lines of evidence indicated that the SMC were responsible for the overproduction of CS-PG: i) SMC synthesized primarily CS-PG when cultured alone, in contrast to the WiDr, which synthesized exclusively heparan sulfate proteoglycan; ii) only the SMC in co-culture stained with an antibody raised against the amino terminal peptide of a CS-PG (PG-40), structurally and immunologically related to that synthesized by the SMC; iii) the stimulation of CS-PG in SMC could be reproduced, though to a lesser extent, using medium conditioned by WiDr, whereas medium conditioned by SMC had no effects on WiDr. In conclusion this study has reproduced in vitro a tumor-associated matrix with a proteoglycan composition similar to that observed in vivo and provides further support to the concept that production of a proteoglycan-rich extracellular environment is regulated by specific tumor-host cell interactions.

10/7/18
DIALOG(R)File 155:MEDLINE(R)

06917941 89219941
Locating cut medial canaliculi by direct injection of sodium hyaluronate into the lacrimal sac.
Seiff SR; Ahn JC
Ophthalmic Plastic and Reconstructive Surgery Service, University of California Medical Center, San Francisco 94143.
Ophthalmic Surg (UNITED STATES) Mar 1989, 20 (3) p176-8, ISSN 0022-023X Journal Code: OIC
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Locating the cut medial ends of canaliculi after trauma or surgery can be difficult. In cases of double canalicular or common canalicular lacerations, injection of sodium hyaluronate (Healon) directly into the lacrimal sac may help pinpoint the medial openings.

10/7/19
DIALOG(R)File 155:MEDLINE(R)

06853590 89155590
Membrane association of the hyaluronate stimulatory factor from LX-1 human lung carcinoma cells.
Knudson W; Toole BP
Department of Biochemistry, Rush/Presbyterian/St Luke's Medical Center, Chicago, Illinois 60612.
J Cell Biochem (UNITED STATES) Nov 1988, 38 (3) p165-77, ISSN 0730-2312 Journal Code: HNF
Contract/Grant No.: CA 42614; HD 23681; DE 05838
Languages: ENGLISH
Document type: JOURNAL ARTICLE
LX-1 human lung carcinoma cells interact with human fibroblasts in culture to cause an increase in hyaluronate production (Knudson et al: Proceedings of the National Academy of Sciences of the United States of America 81:6767, 1984). It is shown here that a similar increase in hyaluronate production also occurs when membranes derived from LX-1 cells, or detergent extracts thereof, are added to cultures of the human fibroblasts. However, no stimulation occurs when membranes or extracts from fibroblasts are added to cultures of the LX-1 cells. The hyaluronate stimulatory factor present in the detergent extracts is a heat- and trypsin-sensitive protein, requires more than 12 h for its action on fibroblasts, causes an elevation in hyaluronate synthetase activity in membranes derived from the fibroblasts, and can be reconstituted into artificial lipid vesicles. Thus, it is concluded that the stimulatory factor is a membrane-bound protein present on the surface of the LX-1 cells and that it interacts with fibroblasts to induce increased hyaluronate synthesis.

10/7/20
DIALOG(R)File 155:MEDLINE(R)

06816125 89118125
Serum hyaluronic acid levels in cancer.
Cooper EH; Forbes MA
Unit for Cancer Research, University of Leeds, UK.
Br J Cancer (ENGLAND) Nov 1988, 58 (5) p668-9, ISSN 0007-0920 Journal Code: AV4
Languages: ENGLISH
Document type: JOURNAL ARTICLE

10/7/21
DIALOG(R)File 155:MEDLINE(R)

06648624 88293624
[Breast carcinomas and the extracellular matrix]
Carcinomes mammaires et matrice extra-cellulaire.
Clavel C; Birembaut P; Adnet JJ; Foidart JM
Laboratoire Pol Bouin, I.N.S.E.R.M., U 314, Hopital Maison Blanche, Reims.
Ann Pathol (FRANCE) 1988, 8 (2) p107-13, ISSN 0242-6498 Journal Code: AAZ

Languages: FRENCH Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW, REVIEW, TUTORIAL English Abstract
This paper underlines the interrelations between tumoral cells and the extra-cellular matrix in breast cancers with possible applications for the diagnosis and the prognosis. In mammary carcinomas, the first step of tumoral invasion is characterized by the loss of basement membrane components, particularly type IV collagen and laminin. Immunohistochemical detection of these disruptions of basement membrane is easy and useful for the diagnosis of "in situ" or microinvasive carcinomas. Laminin seems also to facilitate the adhesion of cancer cells to type IV collagen, and the dosage of its fragment P1 in the blood serum may be a good marker for the follow up of the patients. Stromal reaction involves many intricate macromolecules of the extra-cellular matrix. Types I and III collagens are often present in non colloid carcinomas. Rate, turn over of elastin and its prognostic value are still debated. Elastosis is related to well differentiated carcinomas and the presence of estrogen receptors. The stroma of the colloid form of breast cancer is rich in proteoglycans. Malignant and stromal cells, through the intermediary of cytokines, can synthesize these macromolecules. Hyaluronic acid and chondroitin sulfate are abundant in mammary carcinomas and form a favorable substrate for the growth and the migration of malignant cells. However, proteases decrease and limit their action. The presence of fibronectin, principally in the stroma, is difficult to interpret but fibronectin seems to play a role in tumoral retraction. (49 Refs.)

10/7/22
DIALOG(R)File 155:MEDLINE(R)

06608140 88253140
Concentration of hyaluronan in the serum of untreated cancer patients with special reference to patients with mesothelioma.
Dahl IM; Laurent TC
Department of Medicine, University of Tormsoo, Norway.
Cancer (UNITED STATES) Jul 15 1988, 62 (2) p326-30, ISSN 0008-543X Journal Code: CLZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The concentration of hyaluronan was measured in the serum from patients with tumors. The patients were divided into nine groups: two control groups, i.e., those with benign tumors and those having undergone radical surgery; and seven groups of patients with untreated malignant conditions, i.e., mesotheliomas, sarcomas, lymphomas, breast carcinomas, brain tumors, bronchial carcinomas, and a group of various malignancies. As an additional control group, subjects with benign pulmonary diseases were investigated. The control groups and all the groups with malignant tumors except the mesotheliomas had serum hyaluronan values equal to or only slightly higher than those of healthy volunteers of the same age. The patients with mesotheliomas had significantly elevated hyaluronan levels (287 +/- 282 [Standard deviation] micrograms/l; n = 35; P less than 0.001) compared with healthy volunteers (54 +/- 28 micrograms/l in the age group of 51 to 60 years). Patients with asbestosis do not exhibit increased serum hyaluronan. The analysis of serum hyaluronan should therefore be of value in the diagnosis of mesothelioma.

10/7/23
DIALOG(R)File 155:MEDLINE(R)

06432089 88077089
The cell surface hyaluronate binding sites of invasive human bladder carcinoma cells.
Nemec RE; Toole BP; Knudson W
Department of Biochemistry, Rush-Presbyterian, St. Luke's Medical Center, Chicago, Il 60612.
Biochem Biophys Res Commun (UNITED STATES) Nov 30 1987, 149 (1) p249-57, ISSN 0006-291X Journal Code: 9Y8
Contract/Grant No.: CA42614; DE05838
Languages: ENGLISH
Document type: JOURNAL ARTICLE
High-affinity, cell surface binding sites for hyaluronate were demonstrated on highly invasive human bladder carcinoma cells. These binding sites were shown to be specific for hyaluronate, saturable and exhibit a Km of 0.94 x 10(-9) M and a Bmax of 65 ng hyaluronate/10(6) cells. The binding of [3H]hyaluronate to a fixed cell-affinity column was competed with unlabeled hyaluronate and hyaluronate-hexasaccharide but not with hyaluronate-tetrasaccharide, chondroitin sulfate, heparin or non-sulfated dextran. Pre-treatment of cells with protease destroyed the binding activity whereas pretreatment with Streptomyces hyaluronidase to reveal occupied binding sites had no effect. No hyaluronate-binding activity was observed on normal human fibroblasts.

10/7/24
DIALOG(R)File 155:MEDLINE(R)

06297321 87271321
Analyses of glycosaminoglycans in human lung cancer.
Masuda H; Ozeki T; Takazono I; Tanaka Y
Biochem Med Metab Biol (UNITED STATES) Jun 1987, 37 (3) p368-73, ISSN 0885-4505 Journal Code: APR
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Studies were conducted on the total amount of glycosaminoglycans and glycosaminoglycan composition in adenocarcinoma tissue of human lung. The glycosaminoglycans were prepared by exhaustive proteinase digestion of adenocarcinoma tissue from human lungs and of lung tissue without pulmonary diseases taken at autopsy as a control. The glycosaminoglycan classes were characterized by biochemical, enzymatic, and electrophoretic methods. The presence of heparin, which has until now not been found in lung cancer tissue, was demonstrated on both carcinoma and control tissues. The levels of whole glycosaminoglycans were markedly increased in cancer tissue compared to the controls. The classes of glycosaminoglycans which increased in lung carcinoma tissue were predominantly chondroitin-4-sulfate and chondroitin-6-sulfate. Both hyaluronic acid and heparin were slightly increased in cancer tissue.

10/7/25
DIALOG(R)File 155:MEDLINE(R)

06213065 87187065
Serum hyaluronate in malignant pleural mesothelioma.
Frebourg T; Lerebours G; Delpech B; Benhamou D; Bertrand P; Maingonnat C; Boutin C; Nouvet G
Cancer (UNITED STATES) Jun 15 1987, 59 (12) p2104-7, ISSN 0008-543X Journal Code: CLZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE

The diagnostic value of hyaluronate concentration in effusions of malignant mesothelioma has been extensively reported but no information is available about serum hyaluronate in patients with this cancer. Using a new enzymoimmunologic assay based on hyaluronate-hyaluronectin interaction, serum levels of hyaluronate were measured in 16 patients with malignant pleural mesothelioma, 50 patients with other pleural effusions, and 94 healthy blood donors. The mean serum hyaluronate level in patients with mesothelioma (mean, 750 micrograms/l; range, 29 to 5833 micrograms/l) was significantly higher than in patients with other pleural effusions (mean, 56 micrograms/l; range, 4 to 137 micrograms/l) and than in blood donors (mean, 24 micrograms/l; range, 0 to 94 micrograms/l). Comparison of serum hyaluronate values observed in mesotheliomas with the clinical course of the disease suggests that serum hyaluronate might increase only at an advanced stage of the cancer. Therefore, serum hyaluronate determination has probably no clinical value for early detection of malignant mesothelioma, but might be useful to evaluate the clinical course of this malignancy.

10/7/26
DIALOG(R)File 155:MEDLINE(R)

06052329 87026329
Glycosaminoglycan-enriched extracellular matrix surrounds intraductal carcinoma of human breast: histochemical study.
Marotta M; Vecchione R; Martino G; D'Armiento FP; De Cesare M; Rosati P Appl Pathol (SWITZERLAND) 1985, 3 (3) p179-85, ISSN 0252-1172 Journal Code: APP
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The presence of glycosaminoglycans and hyaluronate was histochemically detected in connective tissue surrounding the intraductal carcinoma of human breast. The implications of the observation in the interaction between neoplasia and host tissues are discussed.

10/7/27
DIALOG(R)File 155:MEDLINE(R)

05774046 86075046
Immunoenzymoassay of the hyaluronic acid-hyaluronectin interaction: application to the detection of hyaluronic acid in serum of normal subjects and cancer patients.
Delpech B; Bertrand P; Maingonnat C
Anal Biochem (UNITED STATES) Sep 1985, 149 (2) p555-65, ISSN 0003-2697 Journal Code: 4NK
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The binding of a hyaluronic acid-binding glycoprotein, hyaluronectin (HN), isolated from human brain, to hyaluronic acid (HA) was investigated with the enzyme-linked immunosorbent assay technique using plastic microtest plates coated with a 50 mg/liter solution of HA in 0.1 M bicarbonate. Optimum conditions for HN binding to HA were in 0.2 M NaCl buffered with 0.1 M sodium phosphate at pH 7. An assay for HA in solution was set up exploiting the fact that HN binding could be inhibited by soluble HA. HA was preincubated for 1 h in a test tube with a 30-ng/ml HN solution (v/v) in the buffer containing 0.1% bovine serum albumin. Incubation on HA-coated microtest plate lasted 4 h and maximum sensitivity was achieved when incubation was carried out at 4 degrees C. HN bound to the plate was revealed by means of alkaline phosphatase-conjugated anti-HN antibodies. The test was used to measure HA inhibitory activity after depolymerization by ferrous ions. No difference was found between inhibitory activity or smaller fragments and that of high-molecular-weight HA. The assay was applied to determination of HA in sera. Specificity was demonstrated by Streptomyces hyaluronidase digestion of reactive material in sera. Other glycosaminoglycans did not interfere with the assay. Recovery of HA was good and intra- and interassay variation coefficients were 6 +/- 2.2 and 12%. In 103 blood donor sera, HA was found at 22.4 +/- 16.7 micrograms/liter. HA was elevated in most of the cancer patient sera tested.

10/7/28
DIALOG(R)File 155:MEDLINE(R)

05751800 86052800
[Formation of mixed spheroids by a coculture of human cancerous and fibroblast cells]
Formation de spheroides mixtes par une coculture de cellules cancereuses et de fibroblastes humains.
Chauzy C; Delpech B; Girard N; Olivier A
C R Acad Sci III (FRANCE) 1985, 301 (8) p387-92, ISSN 0764-4469 Journal Code: CA1
Languages: FRENCH Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
The coculture of fibroblasts with cancerous cells under the conditions which lead to spheroid formation, allowed the obtention of spheroids composed of a fibroblastic core surrounded by cancerous cells. The fibroblast core was labelled by hyaluronic acid and hyaluronectin. Hyaluronic acid concentration was also measured by enzymoimmunological assay in culture medium where it was found to accumulate during spheroid growth. The composite spheroid technique is a good model system for analysis of cancer cells-fibroblasts interaction in vitro.

10/7/29
DIALOG(R)File 155:MEDLINE(R)

05736522 86037522
The glycosaminoglycans of human bladder cancers of varying grade and stage.
De Klerk DP
J Urol (UNITED STATES) Nov 1985, 134 (5) p978-81, ISSN 0022-5347 Journal Code: KC7
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The glycosaminoglycans of four normal human bladders and fourteen bladder cancers were characterized and quantitated (after proteolytic extraction) by specific enzyme digestion, cellulose acetate electrophoresis and densitometry. Hyaluronic acid, heparan sulfate, dermatan sulfate and chondroitin sulfate were identified in both normal and cancerous bladders. Hyaluronic acid and dermatan sulfate were the major glycosaminoglycans of the normal epithelium/submucosa while heparan sulfate and dermatan sulfate were predominant in normal bladder muscle. Bladder cancer glycosaminoglycan content was influenced by the stage and grade of the neoplasm. Hyaluronic acid and dermatan sulfate tended to decrease and chondroitin sulfate to increase in infiltrating cancers, whereas a decrease in the percentage of heparan sulfate correlated closely with higher grade tumors. The bladder cancer glycosaminoglycan profile may be indicative of the tumor's invasive potential.

10/7/30
DIALOG(R)File 155:MEDLINE(R)

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05622793 85238793
Human tumor cells in culture stimulate glycosaminoglycan synthesis by human skin fibroblasts.
Merrilees MJ; Finlay GJ
Lab Invest (UNITED STATES) Jul 1985, 53 (1) p30-6, ISSN 0023-6837 Journal Code: KZ4
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The human tumor cell lines, MM-96, FME, HCT-8, HT-29, MCF-7 and T-47D, in culture produced a factor or factors able to stimulate glycosaminoglycan (GAG) synthesis in human skin fibroblasts (HF). Conditioned growth media from the melanoma MM-96 and the colon carcinoma HT-29 produced a 10- and 8-fold stimulation of HF GAG synthesis, respectively, with an even larger stimulation of hyaluronic acid. Conditioned media from the melanoma FME and the breast carcinomas MCF-7 and T-47D stimulated GAG synthesis 2-fold, whereas media from the colon carcinoma HCT-8 gave a variable response often with no effect on GAG levels. Conditioned media from HF cultures had no effect on tumor cell GAG synthesis. Coculture of tumor cells and HF also resulted in increased GAG synthesis, and the degree of stimulation was similar to that with the conditioned media. Tumor cell-conditioned media were also effective in stimulating GAG synthesis by porcine smooth muscle cells and by chick embryo fibroblasts in culture, although the increase in GAG synthesis was much less than with HF cultures. These findings support the concept that the stromal desmoplasia characteristic of many growing and invasive tumors in vivo arises by tumor cell modulation of GAG synthesis by surrounding normal connective tissue cells.

10/7/31
DIALOG(R)File 155:MEDLINE(R)
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05611914 85227914
Glycosaminoglycans in malignant diffuse mesothelioma.
Kawai T; Suzuki M; Shinmei M; Maenaka Y; Kageyama K
Cancer (UNITED STATES) Aug 1 1985, 56 (3) p567-74, ISSN 0008-543X Journal Code: CLZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Because of frequently encountered diagnostic difficulty due to a morphologic similarity between diffuse pleural mesothelioma and peripheral pulmonary adenocarcinoma, glycosaminoglycans (GAG) of human malignant diffuse mesothelioma were histochemically stained and chemically quantitated, and were compared with GAG of papillary adenocarcinoma of the lung. In all seven patients, the diagnosis of diffuse mesothelioma was confirmed morphologically by such findings as abundant bushy microvilli on cell surface and intermediate filaments in cytoplasm. The total GAG in mesothelioma obtained from fresh materials (5 cases) was significantly increased over that in pleural connective tissue (P less than 0.01) and lung adenocarcinoma (P less than 0.02). Two dimensional electrophoretic separation of GAG of mesothelioma and lung cancer showed hyaluronic acid, heparan sulfate, heparin, dermatan sulfate and chondroitin sulfate; among them, the two predominant fractions were hyaluronic acid and chondroitin sulfate. In the quantitative analysis, the hyaluronic acid content of mesothelioma averaged 57% of the total GAG, but that of lung adenocarcinoma, 38%. The results suggest that chemical analysis of GAG may be useful as supplementary diagnostic procedure to morphologic examination in the differentiation of diffuse mesothelioma from papillary adenocarcinoma of the lung.

10/7/32
DIALOG(R)File 155:MEDLINE(R)
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05579797 85195797
[The histochemistry of complex carbohydrates in the prostatic tumor] Sugiyama T
Hinyokika Kiyo (JAPAN) Jan 1985, 31 (1) p49-69, ISSN 0018-1994 Journal Code: 27K
Languages: JAPANESE Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
Seventy five prostatic specimens from cancer, BPH and normal controls were studied by light microscopic histochemical methods for the demonstration of complex carbohydrates and some proteins: 1) alcian blue (AB) (pH 1.0), 2) alcian blue (AB) (pH 2.5), 3) Periodic Acid-Schiff (PAS), 4) peroxidase labelled-Ricinus communis agglutinin-diaminobenzidine (PO-RCA-DAB), 5) Concanavalin A-peroxidase-diaminobenzidine (ConA-PO-DAB), 6) ConA-PO-DAB-periodic acid-m-aminophenol Fast black salt K (ConA-PO-DAB-PA-AP-FBK). For identifying individual acidic and neutral carbohydrates, following procedures of enzyme digestion were performed upon some tissue sections prior to the above histochemical staining: a) sialidase (prior to staining with AB at pH 2.5), b) streptomyces hyaluronidase (prior to staining with AB at pH 2.5), c) testicular hyaluronidase (prior to staining with AB at pH 1.0 or pH 2.5), d) chondroitinase ABC (prior to staining with AB at pH 1.0 or pH 2.5), e) chondroitinase AC (prior to staining with AB at pH 1.0 or pH 2.5), f) alpha-amylase (prior to staining with PAS). In addition, the tissue specimens from prostatic cancer were stained immunohistochemically for demonstration of prostatic acid phosphatase (PAP) and the serum PAP levels were also measured by radioimmunoassay. The histochemical differences in the prostatic tissue among normal control, BPH and cancer as follows. In the tissue of prostatic cancer, chondroitin sulfate A, C and hyaluronic acid were present in the interstitium. Chondroitin sulfate, hyaluronic acid and sialic acid were present in the cytoplasm of cancer cells. In the tissue of BPH chondroitin sulfate B and hyaluronic acid was present in the interstitium and hyaluronic acid was present in the cytoplasm of epitherial cells. In the epithelial basement membrane of the tissue from BPH, chondroitin B and hyaluronic acid were present. 1,2-Glycol groups of neutral complex carbohydrates in the interstitium of prostatic cancer were shown to exist in smaller amounts than in that of BPH. In the cytoplasm of cancer cells the intensity of both PO-RCA-DAB and ConA-PO-DAB staining could be divided into three groups: strong, moderate and weak. In the prostatic cancer there was a good correlation between the intensity of PO-RCA-DAB staining and tumor grade, and intensity of ConA-PO-DAB staining was correlated well with serum PAP level. The cytoplasm of cancer cells showed a positive reaction to PAP immunostaining and no appreciable difference was observed according to tumor grade.(ABSTRACT TRUNCATED AT 400 WORDS)

10/7/33
DIALOG(R)File 155:MEDLINE(R)
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05502341 85118341
Mesothelioma. Histological and electron microscopic study of human cases. Ebihara Y; Kitazawa Y; Sagawa H
Acta Pathol Jpn (JAPAN) Nov 1984, 34 (6) p1411-24, ISSN 0001-6632 Journal Code: 1NE
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Four cases of mesothelioma were studied histologically and electron microscopically. One of them showed a pure epithelial type of the peritoneal origin, characterised by a tremendous production of hyaluronic acid. The other three tumors originated from the pleura revealed a histology of biphasic type mesothelioma, which showed an admixed tubular and fibrous pattern and consisted of small-sized cells with slight atypia. However, in some places of these tumors they showed considerable atypical features appearing like an anaplastic or squamoid carcinoma and/or spindle cell sarcoma. Hyaluronic acid was histologically demonstrated in the cytoplasmic vacuoles as well as in the luminal space surrounded by the tumor cells. Electron microscopically, varied numbers of microvilli and desmosome-like attachments were found on the surface of the tumor cells. Mitochondria were small and round. Well-developed rERs tended to encircle mitochondria and to dilate

forming cisternae. Various amounts of microfilaments were found in the cytoplasm. The tumor cells which were rich in the latter two components, dilated rERs and microfilaments, resembled fibroblasts. Some tumor cells had phagosomes including dense and fine granules similar to ferritin, suggesting their phagocytotic activity. The hyaline matrix, common to the biphasic type tumor which was largely composed of dense collagenous tissues, was demonstrated to contain hyaluronic acid by histochemistry, and it was suggested that some secretory substances of the tumor cell may participate in composing the hyaline matrix to some extent.

10/7/34
DIALOG(R)File 155:MEDLINE(R)

05464263 85080263
Stimulation of glycosaminoglycan production in murine tumors. Knudson W; Biswas C; Toole BP
J Cell Biochem (UNITED STATES) 1984, 25 (4) p183-96, ISSN 0730-2312 Journal Code: HNF
Contract/Grant No.: DE 05838; CA07278
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Three types of murine tumors, B-16 melanoma, A-10 carcinoma, and S-180 sarcoma, were shown to contain elevated glycosaminoglycan (GAG) concentrations in vivo as compared to normal muscle or subcutaneous tissue. Hyaluronate was especially concentrated in the A-10 carcinoma, which contained approximately six times more hyaluronate than subcutaneous tissue and 18 times more than muscle. In all three tumors, chondroitin sulfates, especially chondroitin-4-sulfate, were present in higher concentrations than in the normal tissues. In culture, however, all three tumor cell lines produced less than 5% as much GAG as mouse fibroblasts, when measured by incorporation of [3H] acetate or by chemical analysis. Varying the culture passage number or the medium composition, ie, glucose, serum, and insulin concentrations, had little effect on GAG synthesis by the tumor cells. The low GAG levels in the tumor cell cultures were not due to hyaluronidase activity in their media. In an attempt to mimic possible host-tumor cell interactions that could account for the elevated GAG levels in vivo, tumor cells were cocultured with fibroblasts, but no stimulation above the amount made by the tumor cells alone plus that by the fibroblasts alone was observed. Conditioned media from the tumor cells, either dialyzed or not against fresh complete medium, had no effect on fibroblast GAG synthesis. Tumor extracts, however, were found to stimulate synthesis of hyaluronate by fibroblasts. Stimulation by extracts of A-10 carcinoma was greater than and additive to that of serum. The above results strongly suggest that GAG production in these tumors is in part regulated by host-tumor interactions.

10/7/35
DIALOG(R)File 155:MEDLINE(R)

05408487 85024487
Analysis of hyaluronic acid in the diagnosis of malignant mesothelioma. Chiu B; Churg A; Tengblad A; Pearce R; McCaughey WT
Cancer (UNITED STATES) Nov 15 1984, 54 (10) p2195-9, ISSN 0008-543X Journal Code: CLZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Using a modified papain digestion cetylpyridinium salt precipitation method, glycosaminoglycans were isolated from 21 mesotheliomas, 34 primary lung carcinomas, 12 carcinomas of other sites, and 7 soft tissue sarcomas. Qualitatively, hyaluronic acid (HA) was present in 20 of 21 mesotheliomas, about half of the primary lung adenocarcinomas, and all of the soft tissue sarcomas. On the average, HA constituted 45% of the total glycosaminoglycans in the mesotheliomas and 28% of the total in the lung cancers. Quantitatively, mesotheliomas contained statistically greater amounts (mean value, 0.74 mg/g) of HA than primary lung adenocarcinomas (mean value, 0.08 mg/g), but were not statistically different from soft tissue sarcomas (mean value, 2.01 mg/g) or primary ovarian serous neoplasms (mean value, 0.92 mg/g). The study concludes that, contrary to previous reports, HA is neither the sole nor the predominant glycosaminoglycan in most mesotheliomas, but, given the proper clinical and histologic setting, the finding of sufficiently high levels (greater than 0.4 mg/g dry tissue extract) supports the diagnosis of mesothelioma when the alternative diagnosis is primary adenocarcinoma of lung.

10/7/36
DIALOG(R)File 155:MEDLINE(R)

05293128 84217128
[Significance of urinary hyaluronate assays in the diagnosis of bladder carcinoma. II. Hyaluronate in patients with bladder carcinoma] Baba S
Nippon Hinyokika Gakkai Zasshi (JAPAN) Aug 1983, 74 (8) p1362-9, ISSN 0021-5287 Journal Code: KRB
Languages: JAPANESE Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract

10/7/37
DIALOG(R)File 155:MEDLINE(R)

05293127 84217127
[Significance of urinary hyaluronate assays in the detection of bladder carcinoma. I. Production of hyaluronate by established cell lines from human bladder carcinoma in vitro]
Baba S
Nippon Hinyokika Gakkai Zasshi (JAPAN) Aug 1983, 74 (8) p1352-61, ISSN 0021-5287 Journal Code: KRB
Languages: JAPANESE Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract

10/7/38
DIALOG(R)File 155:MEDLINE(R)

05241160 84165160
Glycosaminoglycans of human prostatic cancer.
De Klerk DP; Lee DV; Human HJ
J Urol (UNITED STATES) May 1984, 131 (5) p1008-12, ISSN 0022-5347 Journal Code: KC7
Languages: ENGLISH
Document type: JOURNAL ARTICLE

The glycosaminoglycans of normal, benign hyperplastic and cancerous prostate were studied. In both prostatic hyperplasia and cancer the chondroitin sulfate:dermatan sulfate ratio was increased. In prostatic cancer this increase correlated with both the differentiation and extent of cancer in the prostate. The percentages heparan sulfate and heparan sulfate sulfation were decreased in prostatic cancer. Hyaluronic acid increased with dedifferentiation of the cancer. Histochemically, sulfated glycosaminoglycans were concentrated in the prostatic stroma at the stromal-epithelial interface. The increased chondroitin sulfate:dermatan sulfate ratio may be a nonspecific response or requirement for epithelial growth.

10/7/39
DIALOG(R)File 155:MEDLINE(R)

05134074 84058074
Influence of fixed fibroblasts on glycosaminoglycan synthesis of human gastric carcinoma cells in vitro.
Sobue M; Takeuchi J; Tsukidate K; Toida M; Goto K; Nakashima N Exp Cell Res (UNITED STATES) Dec 1983, 149 (2) p527-34, ISSN 0014-4827 Journal Code: EPB
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The influence of fixed fibroblasts on the glycosaminoglycan (GAG) synthesis of gastric carcinoma cells was examined by incubation along with [3H]glucosamine. In well-differentiated adenocarcinoma cells, the amount of 3H-GAG in the interface material between the carcinoma cells and the fixed fibroblasts was much larger (about twenty times) than in the interface between the carcinoma cells and the bare culture plates, and 3H-GAG consisted mainly of heparan sulfate, with a small amount of dermatan sulfate and chondroitin sulfate. On the other hand, in poorly differentiated carcinoma cells, the amount of 3H-GAG in the interface material produced by the carcinoma cells on the fibroblast was almost the same as on the bare culture dish. In a conventional monolayer culture, well-differentiated adenocarcinoma cells produced a much greater amount of GAG, consisting mainly of dermatan sulfate, chondroitin sulfate and heparan sulfate, than poorly differentiated carcinoma cells. Almost the same amount of hyaluronic acid was secreted into the medium by both types of carcinoma cells.

10/7/40
DIALOG(R)File 155:MEDLINE(R)

04896082 83129082
Increased synthesis of hyaluronic acid by mouse mammary carcinoma cell variants with high metastatic potential.
Kimata K; Honma Y; Okayama M; Oguri K; Hozumi M; Suzuki S Cancer Res (UNITED STATES) Mar 1983, 43 (3) p1347-54, ISSN 0008-5472 Journal Code: CNF
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Variant subpopulations of FM3A mouse mammary carcinoma cells that have increased lung-colonizing potential were obtained previously by sequentially harvesting pulmonary metastases, culturing their cells in vitro, and reestablishing the metastases in vivo. In the present study, glycosaminoglycan production by the parental and variant cells was studied after metabolic labeling of cultures by [14C]glucosamine for 24 hr. Analysis of the products indicated that the rate of incorporation of the labeled precursor into hyaluronic acid in the high-metastatic variant cells was 27 to 54 times the rate in the low-metastatic variant cells and that the increase in hyaluronic acid synthesis was not associated with an increase in the rate of synthesis of other glycosaminoglycans. Both the cell layers and media of high-metastatic variants contained a much higher proportion of radioactivity in hyaluronic acid than did the corresponding fractions of low-metastatic cell lines. The results provide a basis for further investigation of the potential role of hyaluronic acid in control of the behavior of epithelial tumor cells during metastasis.

10/7/41
DIALOG(R)File 155:MEDLINE(R)

04888740 83121740
Histologic distinction between malignant mesothelioma, benign pleural lesion and carcinoma metastasis. Evaluation of the application of morphometry combined with histochemistry and immunostaining. Kwee WS; Veldhuizen RW; Golding RP; Mullink H; Stam J; Donner R; Boon ME Virchows Arch [Pathol Anat] (GERMANY, WEST) 1982, 397 (3) p287-99, ISSN 0340-1227 Journal Code: XD0
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Thirty men and 7 women with malignant mesothelioma seen at the Free University Hospital from 1st January 1960 until 1st July 1981 were reviewed. The histological, histochemical and morphometrical findings are reported. These findings are compared with 25 cases of pleural metastatic carcinoma and 25 cases of reactive pleural lesions. Fourty-nine percent of malignant mesotheliomas produced hyaluronic acid, however all cases of pleural metastatic carcinomas failed to produce this substance. All cases of malignant mesothelioma were D-PAS negative while 15 cases of pleural metastatic carcinoma showed reactivity to D-PAS. All cases of malignant mesothelioma and 9 cases of metastases were CEA negative. To distinguish malignant mesothelioma from metastases it is advisable to perform the D-PAS staining first. If it is negative mesothelioma can be confirmed by showing hyaluronic acid activity. A positive CEA staining rules out mesothelioma. In our study it was shown that with these methods 18 of 37 mesotheliomas could be identified with certainty, and 22 of the 25 carcinoma metastases. Morphometrically the malignant mesotheliomas could not be distinguished from the metastases, however the reactive pleural lesions had smaller nuclei than the malignant cells with mean values below 30 mu2. In the malignant cases these values had a range from 36 to 101 mu2. In distinguishing between reactive pleural lesions and malignant mesothelioma the production of hyaluronic acid points to the malignant character of the lesion. Thus histochemistry and immunostaining are important in the distinction of malignant mesothelioma from metastases, while the value of morphometry lies mainly in the seperation of reactive lesions from malignant mesothelioma.

10/7/42
DIALOG(R)File 155:MEDLINE(R)

04505402 82048402
Glycosaminoglycans in human lung cancer.
Horai T; Nakamura N; Tateishi R; Hattori S
Cancer (UNITED STATES) Nov 1 1981, 48 (9) p2016-21, ISSN 0008-543X Journal Code: CLZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The quantitative changes of glycosaminoglycans in tumor tissue of human lung cancers (2 squamous cell carcinomas, 4 adenocarcinomas and 5 small cell carcinomas) were studied. The total amount of glycosaminoglycans in human lung cancer tissues increased 1.4 to 4 times in comparison with that in normal lung tissues. The increase in tissue content of glycosaminoglycans was accompanied by an increase in the chondroitin sulfate level in every histologic type of lung cancer, as well as by a marked increase in hyaluronic acid level in squamous cell carcinomas, and a moderate increase in its level in small cell carcinomas. The concentrations of dermatan sulfate and heparan sulfate in lung cancer tissues did not show any significant changes compared with those in normal lung tissues. The increase in total

amount and changes in the composition of glycosaminoglycans in human lung cancer tissue were closely related to the histologic type of the tumor.

10/7/43
DIALOG(R)File 155:MEDLINE(R)

04358034 81186034
A high level of glycosaminoglycan-synthesis of squamous cell carcinoma of the parotid gland.
Takeuchi J; Sobue M; Sato E; Yoshida M; Uchibori N; Miura K Cancer (UNITED STATES) Apr 15 1981, 47 (8) p2030-5, ISSN 0008-543X Journal Code: CLZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Glycosaminoglycan content of a squamous cell carcinoma derived from the parotid gland was analyzed. The tumor tissue contained a large amount of glycosaminoglycans, and the amount was strikingly larger than found in other kinds of tumor tissues (pleomorphic adenoma, scirrhous carcinoma, myxoma, etc.) analyzed previously. A culture cell line established from this tumor showed a morphologic characteristic of differentiated squamous cell carcinoma, in vitro, forming many tonofilaments in the cytoplasma and numerous desmosomes in the intercellular connection. The carcinoma cell synthesized and secreted a large amount of glycosaminoglycans, consisting mainly of hyaluronic acid. The amount of 3H-labelled hyaluronic acid secreted by this carcinoma cell was about 20-fold larger than that by HeLa cell or KB cell. Conceivably, a high level of hyaluronic acid synthesis is one of the biologic characteristics of squamous cell carcinoma derived from the duct epithelium of the salivary gland.

10/7/44
DIALOG(R)File 155:MEDLINE(R)

03990603 80101603
Hyaluronate and invasiveness of the rabbit V2 carcinoma. Toole BP; Biswas C; Gross J
Proc Natl Acad Sci U S A (UNITED STATES) Dec 1979, 76 (12) p6299-303, ISSN 0027-8424 Journal Code: PV3
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We propose that hyaluronate, a major component of extracellular matrices through which cells migrate during embryonic tissue development and in regenerative processes, is also concentrated in the environment through which neoplastic cells invade local host tissues and may facilitate this process. The hyaluronate content of invasive V2 carcinoma grown in rabbit was found to be 3-4 times greater than that of the same tumor grown in the nude mouse, in which it is noninvasive. Moreover, hyaluronate concentrations were most elevated in the connective tissue interface between the tumor mass and the neighboring host tissue in the invasive rabbit tumors. The particular site of tumor implantation in the rabbit or nude mouse did not affect the concentrations of hyaluronate in either the parenchyma or the surrounding connective tissue. Similar values were obtained for neoplasms grown in muscle, which normally contains little hyaluronate, and in subcutaneous tissue, which is relatively rich in this glycosaminoglycan.

10/7/45
DIALOG(R)File 155:MEDLINE(R)

03924887 80035887
[Pleural mesothelioma: morphology, histochemistry, difficulties in diagnosis and nosologic problems (author's transl)]
Les mesotheliomes pleuraux: morphologie, histocytochimie, difficultes diagnostiques et problemes nosologiques.
Abelanet R; Jagueux M; Fondimare A; Roujeau J
Rev Fr Mal Respir (FRANCE) May-Jun 1979, 7 (3) p243-64, ISSN 0301-0279 Journal Code: RZ8
Languages: FRENCH Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
Using the material of the French Register, these authors define the epithelial aspects and the histological forms of diffuse pleural mesothelioma. Histochemistry studies, on pleural cytology and on tissues, are of the utmost importance in distinguishing mestothelioma from carcinoma. Hyaluronic acid is almost always showed in the epithelial mesothelioma, being otherwise only noticed in some very flourishing forms of mesothelial cell hyperplasia nad in rare mucus-secreting carcinoma. Cytoenzymology studies are very useful on pleural fluid material, making it possible to show the difference between macrophages and mesothelial cells. Difficulties encountered by pathologists are analysed with reference to the materials examined: cytology, needle biopsy, guided biopsies, surgical material and documents from autopsies. After a critical study of the structures seen in other pleural tumors mesothelioma is defined as a localized or diffuse tumor of the pleura, positively originating from mesothelial cells which manifest either epithelial structures of a double epithelial and mesenchymal composition.

10/7/46
DIALOG(R)File 155:MEDLINE(R)

03907175 80018175
Significance of the quantification and demonstration of hyaluronic acid in tissue specimens for the diagnosis of pleural mesothelioma. Arai H; Kang KY; Sato H; Satoh K; Nagai H; Motomiya M; Konno K Am Rev Respir Dis (UNITED STATES) Sep 1979, 120 (3) p529-32, ISSN 0003-0805 Journal Code: 426
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Hyaluronic acid in pleural tissues from patients with mesothelioma, carcinoma, and asbestosis of the lung was quantified by using specific glycosaminoglycan-degrading enzymes. In all cases of pleural mesothelioma, the quantity of hyaluronic acid in mg/g of dry tissue was at least 0.10 mg, whereas carcinomatous pleural tissue and pleura in asbestosis contained 0.02 to 0.03 mg/g of dry tissue.

10/7/47
DIALOG(R)File 155:MEDLINE(R)

03181502 77083502
In vivo synthesis of acid mucopolysaccharides by Ehrlich ascites tumor cells.
Anghileri LJ
Z Krebsforsch Klin Onkol Cancer Res Clin Oncol (GERMANY, WEST) Dec 20 1976, 88 (1) p17-24, ISSN 0084-5353 Journal Code: XWW

Languages: ENGLISH
Document type: JOURNAL ARTICLE
The biosynthesis and intracellular distribution of acid mucopolysaccharides in Ehrlich ascites tumor cells was studied in vivo by means of the precursors 35S-sulfate, 3H-glucosamine and 14C-galactosamine. It was found that the acid mucopolysaccharide present in the ascitic fluid supernatant is hyaluronic acid. Hyaluronic acid appears to be of extracellular origin, and it is bound to proteins of the cell membrane. The ascites cells exhibit a very active production of sulfated mucopolysaccharides particularly at the mitochondria and cell membrane level. Chondroitin sulfate A is the major component but also the isomers B and C are present. The possible role of chondroitin sulfate A in the development of neoplastic characteristics of the cell is discussed.

10/7/48
DIALOG(R)File 155:MEDLINE(R)

03162786 77064786
Types of mesenchymal reactions in the carcinoma of uterine cervix. Kozlowski H; Hrabowska M
Arch Geschwulstforsch (GERMANY, EAST) 1976, 46 (6) p478-89, ISSN 0003-911X Journal Code: 746
Languages: ENGLISH
Document type: JOURNAL ARTICLE
In the cervical cancer stroma three essential types of mesenchymal reaction: myxoid, fibrogenic with angioplasia and fibroblastic low-differentiated were disclosed. The border membrane of cancer foci is composed of fibroblast layer and ground substance abundant in Ac-MPS of the hyaluronic acid type. This substance is the basal immunosuppressive factor of cancer cells in situ (TIS). Similar activity is exhibited by the pathologic mesenchymal proteins of fibrynoid and hyaline type. The level of chemical differentiation of the mesenchyma, changes according to the maturity of cellular factor in connective tissue. Ac-MPS of the hyaluronic acid type prevail in the ground substance of the myxoid and fibroblastic mesenchyma, while the substances containing sulfuric groups predominate in the tissue matrix exhibiting fibrogenic tendencies.

10/7/49
DIALOG(R)File 155:MEDLINE(R)

03027070 76208070
Variation in glycosaminoglycan components of breast tumors. Takeuchi J; Sobue M; Sato E; Shamoto M; Miura K
Cancer Res (UNITED STATES) Jul 1976, 36 (7 PT 1) p2133-9, ISSN 0008-5472 Journal Code: CNF
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The correlation between the content of individual glycosaminoglycans and the histological patterns are studied on breast tumor tissues. The myxomatous stroma of intracanalicular fibroadenoma contained a large amount of glycosaminoglycans, which were mainly hyaluronic acid. The chondroitin 4- and 6-sulfate level was also high. As the supporting stroma of this tumor became denser and more fibrous, the level of hyaluronic acid content was reduced. In the case of pericanalicular fibroadenoma, glycosaminoglycans were small in amount and the levels of hyaluronic acid and chondroitin sulfate were low, but the ratio of dermatan sulfate content was higher. In the case of gynecomastia, the conent was almost the same as that of pericanalicular fibroadenoma. Scirrhous carcinoma tissues contained a relatively large amount of hyaluronic acid and chondroitin sulfate. No remarkable differences in heparan sulfate content were observed in any one of the breast tumors tested. Dermatan sulfate-chondroitin sulfate copolymers were detected in all the tumors. The presence of dermatan sulfate seemed to have an intimate relation with the fibrogenesis in the interstitial stromal element of the tumor tissues.

10/7/50
DIALOG(R)File 155:MEDLINE(R)

02703624 75110624
The glycosaminoglycans in human hepatic cancer.
Kojima J; Nakamura N; Kanatani M; Omori K
Cancer Res (UNITED STATES) Mar 1975, 35 (3) p542-7, ISSN 0008-5472 Journal Code: CNF
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A method is proposed for the analysis of glycosaminoglycans that were isolated from human liver, combining cellulose acetate electrophoresis and enzymatic digestion with mucopolysaccharidases. The major constituent of glycossaminoglycans in the healthy liver is heparin sulfate and/or heparin (about 65%), with approximately equal quantities of dermatan sulfate and hyalauronic acid (about 13.5 and 13%, respectively) and a small amount of chondroitin sulfate. These components, especially chondroitin sulfate and hyaluronic acid, are markedly increased in hepatic carcinomas.

10/7/51
DIALOG(R)File 155:MEDLINE(R)

02185696 73164696
A study of the effect of acid mucopolysaccharides on the growth of experimental tumors in mice.
Shohat B; Allalouf D; Ber A
Pathol Biol (Paris) (FRANCE) Feb 1973, 21 (2) p117-22, ISSN 0369-8114 Journal Code: OSG
Languages: ENGLISH
Document type: JOURNAL ARTICLE

10/7/52
DIALOG(R)File 155:MEDLINE(R)

01265596 70110596
Hyaluronic acid content of the interstitial fluid of Walker carcinoma 256.
Fiszer-Szafarz B; Gullino PM
Proc Soc Exp Biol Med (UNITED STATES) Feb 1970, 133 (2) p597-600, ISSN 0037-9727 Journal Code: PXZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE

10/7/53
DIALOG(R)File 155:MEDLINE(R)

00711495 68271495
The effect of serum hyaluronidase on acidic polysaccharides and its activity in cancer.
Herp A; DeFilippi J; Fabianek J
Biochim Biophys Acta (NETHERLANDS) Apr 16 1968, 158 (1) p150-3, ISSN 0006-3002 Journal Code: A0W
Languages: ENGLISH
Document type: JOURNAL ARTICLE

10/7/54
DIALOG(R)File 155:MEDLINE(R)

00134842 66134842
Growth-promoting effect of acid mucopolysaccharides on Ehrlich ascites tumor.
Takeuchi J
Cancer Res (UNITED STATES) May 1966, 26 (5) p797-802, ISSN 0008-5472 Journal Code: CNF
Languages: ENGLISH
Document type: JOURNAL ARTICLE

10/7/55
DIALOG(R)File 155:MEDLINE(R)

00038259 66038259
Effect of some drugs on hexosamine synthesis in Ehrlich ascites carcinoma cells and on hyaluronic acid content in the ascitic fluid. Hano K; Nishino Y
Gann (JAPAN) Aug 1965, 56 (4) p367-75, ISSN 0016-450X Journal Code: FGJ
Languages: ENGLISH
Document type: JOURNAL ARTICLE